graduate

We choose a leader
for the 70's—and prepare
to salute the ever-changing scene
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our own Dictionary of
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is on the press

SIMCOE

Mrs. Charles E. Hendry gets a bouquet at a 1969 retirement party for her husband. Not long ago she asked him, "Chick, when are you going to retire from retirement?" See page 62 for answer.

Volume IV Number 1   *January 1972*

THE COVER: Colonel John Graves Simcoe, first Lieutenant-Governor of Upper Canada (sculpture by Phyllis Jacobine Jones, 1950, for façade of the Ontario Archives Building, Queen's Park Crescent).

The Colonel's campaign for a college in his new domain began in 1791. He died in 1806 with the dream unrealized, but others kept the idea alive. The charter of King's College was approved March 15, 1827, and its first council was named December 15. In 1977 the University of Toronto will celebrate its 150th birthday.

Professor Robin S. Harris has been appointed University Historian and hopes to have a new history ready for publication in 1977. A presidential committee has been appointed to assist Professor Harris.

OUR NINTH PRESIDENT

The months of uncertainty at University of Toronto had an abrupt and satisfying denouement late in November with an announcement by William B. Harris, Chairman of the Board of Governors. Dr. John R. Evans, he said, would become our 9th President on July 1, 1972. Dr. Evans succeeds Dr. Claude Bissell who retired from the presidency after 13 years of service and was appointed University Professor last July 1.

The 9th President, like the 8th, is a prize-winning University of Toronto graduate who left Varsity to earn a doctorate in another country – an Oxford D.Phil. for the 9th, a Cornell Ph.D. for the 8th.

Each returned to his alma mater to teach.

Each left again to prove himself in another expanding Canadian university: Dr. Evans as McMaster's Dean of Medicine and Vice-President, Health Sciences – Dr. Bissell as President of Carleton.

At the age of 42, tall, lean and fit, Claude Bissell was summoned home to be Varsity's 8th President. At the age of 42, tall, lean and fit, John Evans has been summoned home to become the 9th.

As Mr. Harris pointed out in his announcement, "Dr. Evans is the first President of the University of Toronto to be selected by a Search Committee composed of elected representatives of the student body, faculty and administration; and appointed representatives of the alumni and Board of Governors. ... The Board of Governors enthusiastically endorsed the Search Committee's recommendation and it became immediately apparent that Dr. John Evans was indeed well known in his own University."

"He will be assuming his new responsibilities at a time when the University will be entering an exciting but yet untried era," Mr. Harris said. "It is expected that the new University of Toronto Act will come into force next summer and at that time the Board and Senate will go out of existence and a Governing Council will assume the powers of those two bodies. I know that Dr. Evans is a man who can assume the immense responsibilities of the office of President of the University of Toronto with grace, humanity and dedication."

Dr. Evans was appointed Dean of Medicine at McMaster University in 1965 and accepted the additional appointment of Vice-President, Health Sciences, two years later. Last year he was elected president of the Association of Canadian Medical Colleges.

"At McMaster," *Time Magazine* reported, "Dr. Evans earned a reputation as an incisive leader, without sacrificing an easy rapport with students and colleagues. He presided over the development of a $65 million health sciences centre and a restructured curriculum. The school will graduate its first 20 doctors in the spring."

The medical school is housed in a fine modern building where students have the usual learning equipment at their

Dr. Evans at Hart House, November 23, 1971

disposal and, in addition, are given an opportunity to take lectures from tapes and slides, and simulate treatment with a computer.

The McMaster program includes strong emphasis on the function of health care personnel in teams and on those

Above: on June 30, 1971, University of Toronto lost its three top officers: O. D. Vaughan, Chairman of the Board of Governors; Dr. Omond Solandt, Chancellor; and Dr. Claude Bissell, President.

Facing page: the new team – William B. Harris, whose appointment at Chairman was announced by the Minister of University Affairs August 5; Dr. Pauline McGibbon, who was elected Chancellor by the elected alumni members of Senate last spring and took office July 1; and Dr. John R. Evans who becomes President July 1 this year – photographed with Dr. J. H. Sword, the Acting President, in Hart House November 23 after the crowd of well-wishers had thinned out.

Below: eased through the crowd by the Chairman (at the left) the Chancellor has her first meeting with the President-Designate. The Acting President (at bottom of the page) was one of many who added their personal congratulations.

factors which may encourage doctors to practice in under-serviced areas.

Dr. Evans has remarked that, had he not accepted the U of T appointment, he might have decided to stay on at McMaster for a couple of years after his term as dean expires in the spring and then would have considered joining one of the teaching programs in an under-serviced area.

Michael Keating of the *Globe and Mail* was one of the first journalists to enjoy a leisurely talk with our next President after the appointment was announced. Some excerpts from the article he did for his paper follow:

"There's a story that Johnny Evans used to get up at 6 a.m., study until 9, attend classes until 5 then practise with the Varsity Blues until 9.

"The 6-foot-4 Evans became captain of the trophy-winning football team, graduated in the 1952 University of Toronto medicine class with the second-highest standing and earned a doctorate in Oxford on a Rhodes scholarship. ...

"As chairman of government committees concerned with health at both the federal and provincial levels, Dr. Evans is politically enough attuned to know universities must cut costs. But he resists 'a tendency to think only in terms of cost-benefit studies.'

"He said universities must use their 'bright, young people ... to develop a better understanding of what benefits are going to come out of these expenditures and not relating them exclusively to the number of students processed.'

"Measuring just the number of graduates will make universities 'guilty of all the same problems that industry is, where it becomes totally product-oriented or profit-oriented.'

"The future president wants universities to reach out more to attract potential students who now miss a chance at university education because, in spite of their ability, they do not meet conventional admission requirements.

"He also hopes to see program

changes because 'there's a lack of matching of the expectations of students who go to university and what the offering is in the universities.'

" 'I don't think there'll be any single pattern that will last for any length of time. One of the great challenges in the university is how to ... adjust its offerings ... in relation to changing attitudes and the changing needs of society.'

"As an increasing proportion of the university population is made up of people returning for further education or to complete job retraining, academics should 'consider breaking university education into smaller packages ... than the full three-year or four-year degree programs.'

"Adult education will take new and different forms because fewer people will be spending their lives in a single career.

"People will want more than training in recreation to occupy their leisure time. They will become more socially oriented, Dr. Evans said,

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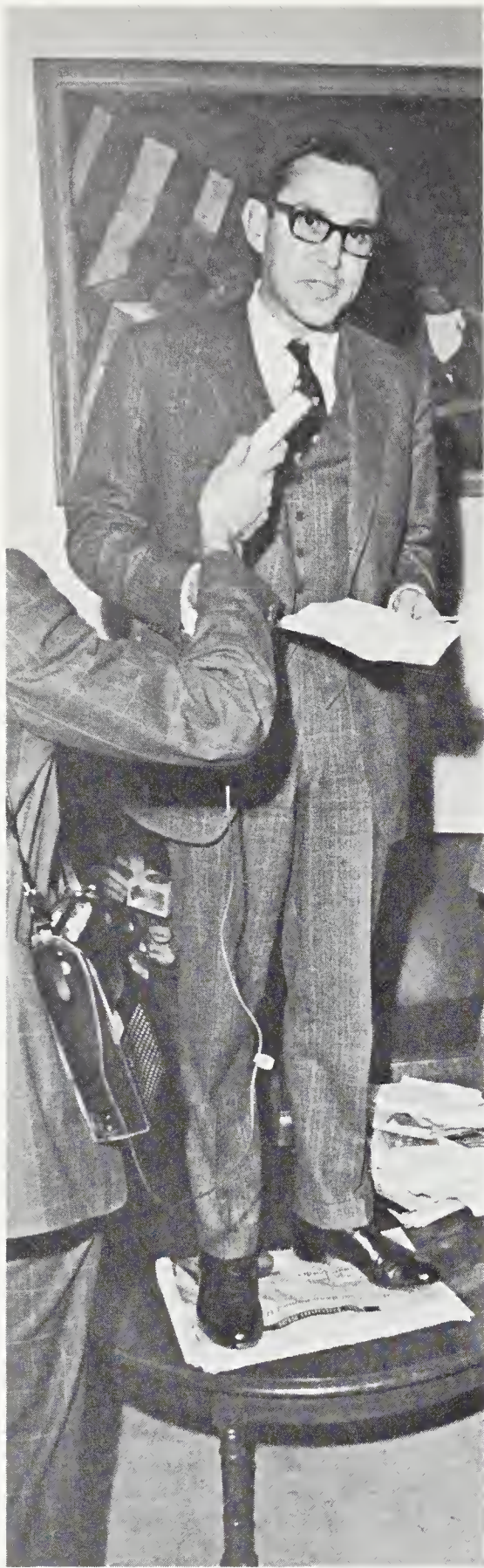
A delighted Omond Solandt, whose heavy responsibility as Chairman of the Presidential Search Committee did not end with his retirement as Chancellor, stands ready to toast the announcement by W. B. Harris that his committee, mission accomplished, "is herewith disbanded".

Virtually the entire Presidential Search Committee was in the throng welcoming the President-Designate to Hart House.

Eight of the 14 had been elected by their constituencies: three faculty members, two administrators, two undergraduate students and one graduate student. Forty candidates were nominated.

The photograph at the bottom of the page was taken last February 8 at the committee's first meeting:

At the left are the three Governors chosen by the Board as its representatives: John A. Tory, Q.C., and Sydney Hermant (standing) and the Hon. Daniel A. Lang.

Next to them, C. Ian P. Tate, ex officio as President of the U of T Alumni Association, stands behind Mrs. Shirley Cornfield, selected by UTAA directorate.

The group of four standing behind Dr. Solandt were all elected by their constituencies: Professor Stanley A. Schiff (Law) and Professor J. B. Conacher (History), Gus Abols, undergraduate, and Alex G. Rankin, Executive Vice-President (Non-Academic), administrator.

Next, Graduate Dean A. E. Safarian, elected by faculty, stands behind Mrs. Joyce Denyer, elected by the undergraduates.

The final group of three: Gary A. Wasserman, elected graduate student; David S. Claringbold, secretary of committee; and (seated) Principal A. C. H. Hallett, elected by administrators.

and will want new types of courses to help them solve problems of the future. ..."

Mr. Harris made his announcement of the presidential appointment to a gathering of University officers, students and senior staff who, invited at short notice to hear an important statement, packed the senior common room at Hart House. Shortly after-wards, Dr. Evans arrived and was given a tumultuous welcome. In tune with the times, it became in every sense an unstructured meeting. With a ring of reporters separating him from those eager to offer congratulations, Dr. Evans took questions and greetings in his stride rather like a master playing "simul" chess.

In the more relaxed atmosphere in which the meeting began, Mr. Harris briefly reviewed the 9th President's career.

Dr. Evans [he said] will return to the University of Toronto where he received his undergraduate training in the Faculty of Medicine. His association with the University, however, goes back even further than that as he received his secondary education at the University of Toronto Schools. His undergraduate career was one in which he excelled in both his academic work and on the playing field. Dr. Evans played for the Varsity Blues for four successive seasons and was captain of the 1951 championship team. He also served on the athletic directorate and was twice awarded the George M. Biggs Trophy which is awarded annually to the undergraduate who has contributed most to University athletics from the standpoint of leadership, sportsmanship and performance. When Dr. Evans graduated he was awarded the Cody Silver Medal as the student standing second in his class and received several scholarships and fellowships at the same time. Shortly after, he was awarded a Rhodes Scholarship which took him to Oxford where he received his Doctorate in 1955. Following a year in London at the National Heart Hospital, Dr. Evans returned to Toronto where he spent several years at the Sunnybrook, the Toronto General and the Sick Children's Hospitals.

John Robert Evans was born in Toronto on October 1, 1929; attended University of Toronto Schools, then enrolled in the University of Toronto Faculty of Medicine.

1952	M.D., University of Toronto.
1952–53	Junior interne, Toronto General Hospital.
1953–55	Rhodes Scholar–University College, Oxford.
1955	D.Phil., Oxford.
1955–56	Resident in clinical medicine and honorary registrar, National Heart Hospital, London, England.
1956–57	Assistant resident in medicine, Sunnybrook Hospital, Toronto.
1957–58	Assistant resident in medicine, Toronto General Hospital.
1958–59	Ontario Heart Foundation Fellow, Hospital for Sick Children, Toronto.
1959–60	Chief resident in medicine, Toronto General Hospital.
1960–65	Markle Scholar in Academic Medicine at University of Toronto.
1960–61	Research Fellow, Baker Clinic Research Laboratory, Harvard Medical School.
1961–65	Associate, Department of Medicine, University of Toronto, and physician, Toronto General Hospital.
1965	Dean of the Faculty of Medicine, McMaster University.
1967	Vice-President (Health Sciences), Dean of Medicine, and Professor in the Department of Medicine, McMaster University.

Associations

Ontario Council of Health–member, member of the executive and chairman, Human Resources committee.

Department of National Health and Welfare, National Health Grants–chairman, 1969–71.

Medical Research Council, 1965–70.

Ontario Council of Deans of Medicine–chairman, 1969–71.

Association of Canadian Medical Colleges–president, 1971.

Served in relation to other research granting agencies–Canadian Arthritis and Rheumatism Society and Ontario Mental Health Foundation.

Fellow, Royal College of Physicians and Surgeons of Canada.

Fellow, American College of Physicians.

Fellow, American Council on Clinical Cardiology.

Member, Canadian Physiological Society.

Member, American Physiological Society.

Member, Canadian Society for Clinical Investigation.

Member, Canadian Cardiovascular Society.

Athletic awards and academic honours

George M. Biggs Trophy. John Copp Bursary, 1950.

Johnny Copp Memorial Trophy, 1951 (presented each year to the player on the senior football team adjudged by his fellows to be the worthiest).

Cody Silver Medal for standing second highest in his graduating class, 1952.

Chappell Prizes in clinical medicine and clinical surgery.

Ellen Mickle Fellowship.

Dr. Roy Simpson Scholarship in paediatrics.

Oxford Scholarship, 1954, for the study of the absorption of vitamin B^{12} in man.

OUR NINTH PRESIDENT

From 1960 to 1965 Dr. Evans was the Markle Scholar in Academic Medicine at the University of Toronto. He spent the first year as a research fellow at Harvard, then returned to Toronto as Associate in the Department of Medicine at the University of Toronto; during this period he was a physician at the Toronto General Hospital.

In May 1965 Dr. John Evans was invited to take the position of Dean of Medicine at McMaster University.

I have only briefly outlined Dr. Evans' career. He also has to his credit a long list of articles in medical journals. He is a fellow of the Royal College of Physicians and Surgeons of Canada, the American College of Physicians and the American Council on Clinical Cardiology. He is a member of the Canadian Physiological Society, the American Physiological Society and the Canadian Society for Clinical Investigation and the Canadian Cardiovascular Society.

Those of us who have been privileged to know Dr. Evans since his undergraduate days are aware that his interests range far beyond the field of medicine. Contemporaries at Oxford recall that he experimented with all there was to offer, and can recall his description of a lecture in Chinese Art he attended. His enthusiasm was such that he was well into the lecture before he realized that it was being conducted in Chinese. Dr. and Mrs. Evans have had a continuing interest in the arts in Canada and have been active in many community activities.

Dr. Evans brings with him to the University of Toronto a very charming and beautiful wife Gay. She is the daughter of the late Mr. J. Grant Glassco and Mrs. Glassco of Toronto. Mrs. Evans is a graduate of the Hospital for Sick Children's School of Nursing. They have six attractive and energetic children who range in age from 6 to 15.

Dr. Evans' parents were both graduates of the University of Toronto. His father William Watson Evans of Owen Sound, Ontario, graduated from Victoria College in 1912 and became a lawyer. He was President of the Victoria Alumni Association, and was a member of the Board of Directors of the University's Alumni Federation in 1928 and its President in the following year. Mr. Evans died in 1932. Dr. Evans' mother, who before her marriage was Mary Evelyn Lucille Thompson of Orangeville, entered the University of Toronto with an Edward Blake Scholarship and received her B.A. at University College in 1912. She was Vice-President of the U.C. Alumnae in 1928. Her death occurred in 1940. Dr. John Evans is one of a family of seven, all of whom attended the University of Toronto.

AN OLD TEAM-MATE SUCCEEDS DR. EVANS AS McMASTER'S DEAN OF MEDICINE

From his vantage point two or three steps higher, Warren Stevens – who retired as Director of Athletics last June – looks over the shoulders of two members of Varsity's 1948–49 championship football team: J. Fraser Mustard, left, and John R. Evans. The next year Fraser Mustard won the Johnny Copp Memorial Trophy, presented annually to the player his team-mates consider the most valuable in terms of sportsmanship and athletic ability. The year after that John Evans won the trophy. This July Dr. Mustard succeeds Dr. Evans as Dean of Medicine at McMaster University.

Confirming the choice by a senate advisory committee, McMaster's President, Dr. H. G. Thode, said Dr. Mustard was "a distinguished physician and scientist – a warm, inspiring person, a man who generates and stimulates ideas". Chairman of Pathology at McMaster since 1966, Dr. Mustard has twice headed key studies for the Ontario Council of Health.

DR. EVANS' PREDECESSORS

Recognition of Dr. John Evans as the ninth President of University of Toronto is based on a study made by Dr. Stewart Wallace in 1958 when Dr. Evans' immediate predecessor, Dr. Claude Bissell, was installed. Historian, author, editor, and Librarian Emeritus of the University, Dr. Wallace died in March 1970. His paper of 1958 follows:

I have been invited, probably because I was once so misguided as to attempt to write the history of the University of Toronto, to say something about President Bissell's predecessors in office.

It is a curious fact that it is not easy to decide who these predecessors have been, or how many of them there were. Should we include the Reverend John Strachan? He was President of the University of King's College, but he was never styled "President of the University of Toronto"; and yet King's College was merely the University of Toronto under an earlier name. Should we include the Reverend John McCaul? He was President of King's College from 1848 to 1849; and he was officially styled "President of the University of Toronto" from 1850 to 1853. Yet these were years of transition, when the University was almost in a state of suspended animation, and McCaul himself was a sort of *roi fainéant*. In 1853 his official designation was changed to "President of University College", and it so continued until his resignation in 1880. During this period there was no "President of the University". It was not until after the federation of 1887 that the term "President of the University" was revived, and it was then revived only in popular usage, for Sir Daniel Wilson, who succeeded McCaul as President of University College in 1880, became then only known

officially as "President of the University Council". Not until James Loudon's appointment in 1892 did the term "President of the University" come again into legal usage.

There seems to be no point, however, in splitting hairs; and in this brief sketch I propose to regard Strachan, McCaul, and Wilson as predecessors of the present President, as well as Loudon, Falconer, Cody, and Sidney Smith – seven in all.

It will not be expected, of course, that I can do more than try to indicate in a superficial way their chief contributions to the growth and development of the University, with references to fuller sources of information.

The part that John Strachan played in the political and religious life of Upper Canada was perhaps open to criticism. But he was in many ways a great man. That he, the son of an Aberdeenshire quarryman, should have come to Upper Canada in the dying days of the eighteenth century, and should have played such an influential part in the country that he was instrumental in founding three universities, may well be regarded as remarkable. It was he who suggested to James McGill the founding of McGill University; he himself was the founder of the University of Toronto as the University of King's College; and when King's College was secularized, he turned, in his old age, to the founding of the University of Trinity College. In the history of higher education in Canada he occupies a niche all his own. His official biography was written by Bishop Bethune in 1870; and there is a vigorous sketch of his life in T. B. Roberton, *The Fighting Bishop* (Toronto, 1926). The late Professor A. H. Young, of Trinity College, was engaged at the time of his death in

writing a full-scale biography of Bishop Strachan; and I hope the materials he gathered with so much care will some day be the basis for the biography he did not live to complete.

When Strachan resigned as President of King's College in 1848, he was succeeded by John McCaul, who had been vice-president. McCaul was a graduate of Trinity College, Dublin, who had come to Canada in 1839 as Principal of Upper Canada College, on the special recommendation of the Archbishop of Canterbury; and there were indeed rumours that his preferment was due to royal blood that ran in his veins. He was an excellent classical scholar, being especially an authority on Greek and Roman epigraphy; and he was master of an old-fashioned type of Irish oratory. But, so far as I have been able to discover, he never wielded a great influence on the course of affairs in the University. A most glowing account of his life has been written by John King, the father of the late prime minister of Canada, the Right Hon. W. L. Mackenzie King, in a book entitled *McCaul: Croft: Forneri – Personalities of Early University Days* (Toronto, 1914); and in this the author frankly says that McCaul "could be 'all things to all men', in the best sense of the maxim". What has happened to his collection of Greek and Latin coins, which he used to show to his students, I have never been able to discover.

When McCaul retired, because of ill health, in 1880, he was succeeded as President of University College by Daniel (afterwards Sir Daniel) Wilson. Wilson was a graduate of the University of Edinburgh who had come to University College in 1853 as professor of English and History. He was a distinguished historian and anthropologist; and it is said that it was he who coined the word "pre-

history". During his period of office, several important events in the history of the University occurred, notably the admission of women into University College in 1885, the federation of the University of Toronto with the University of Victoria College in 1887, and the fire that consumed most of University College in 1890. He was created a knight bachelor, in recognition of his services, in 1888; and he died in 1892. A charming account of his life was written by my old chief, H. H. Langton, under the simple title, *Sir Daniel Wilson* (Toronto, 1928).

Sir Daniel Wilson was succeeded as President by James Loudon. Loudon was the first native-born President of the University, having been born in a house on the site where the Toronto City Hall (the old, not the projected) now stands. It might have been expected that, in view of the outcry made by the "nativists" before his appointment, he would have proved a popular President. Yet he never achieved popularity. On two occasions he ran foul of the undergraduates — first, during the famous undergraduates' "strike" of 1895, and second, during the hardly less famous commotion caused in 1905 by the letters of "Junius Junior". He had no idea of what are now known as "public relations". He made up his mind as to what he thought was right, and he let the chips fall where they would. Yet he was one of those to whom his contemporaries did less than justice. He was a far-sighted educationist; and he built the first physics laboratory in Canada. Perhaps his greatest achievement was the formation of the University of Toronto Alumni Association in 1900. Anyone who wishes to appreciate his contribution to the University should consult H. H. Langton's *James Loudon and the Univer-*
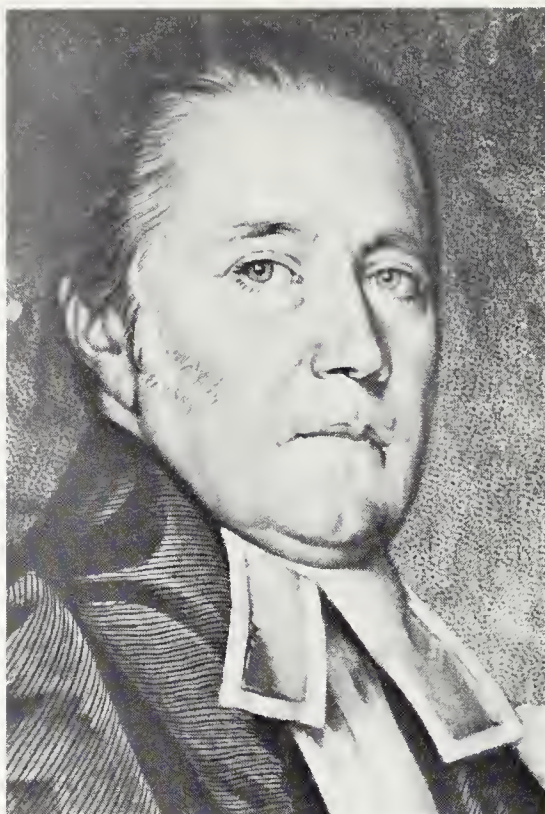
John Strachan, 1827–1848

John McCaul, 1848–1880
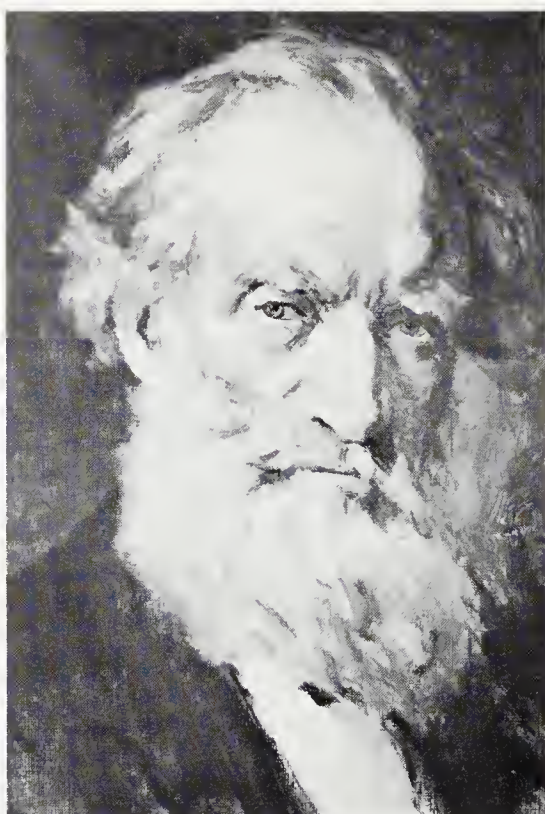
Daniel Wilson, 1880–1892
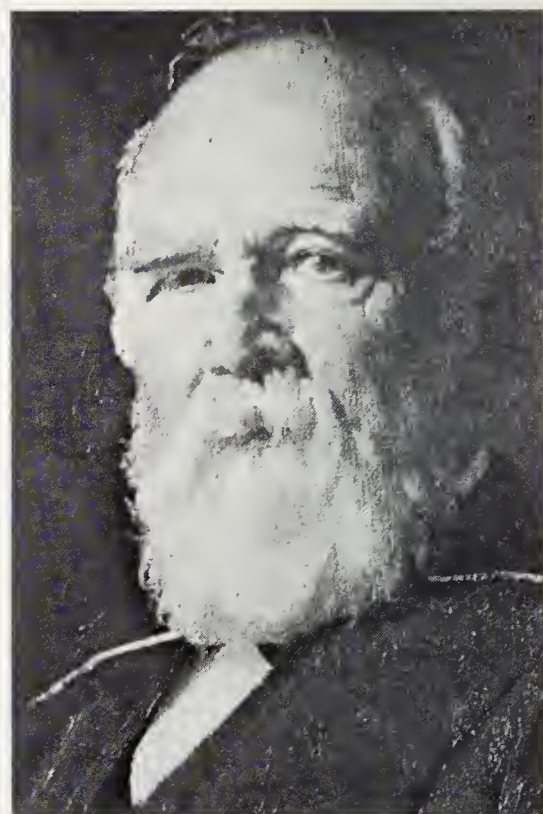
James Loudon, 1892–1905

sity of Toronto (Toronto, 1927). After his retirement in 1905, he wrote his autobiography; but this has never been published. I was, however, kindly allowed to consult it, by his son, Dr. Julian Loudon, when I wrote my *History of the University of Toronto* (Toronto, 1927).

On Loudon's resignation, the Board of Governors appointed Principal Maurice Hutton, of University College, Acting President for one year, while it looked about for the best choice for a new president. Eventually it apopinted to the vacant post the Reverend (later Sir) Robert Falconer, the principal of the Pine Hill

Presbyterian College in Halifax, Nova Scotia. That the appointment caused surprise cannot be denied; but the event abundantly justified the choice. Under President Falconer the University embarked on a period of peace and prosperity it had never enjoyed before. Sir Robert breathed into the administration of the University a spirit of firmness and fairness, of peace and good-will, under which the animosities of the past died away. During his regime, the University experienced a period of orderly, but no less amazing, development. In 1922, the creation of the School of Graduate Studies, as a faculty, transformed

Robert Falconer, 1907–1932

Henry John Cody, 1932–1944

Sidney Earle Smith, 1945–1957

Claude Bissell, 1958–1971

period of office coincided with the Great Depression and the Second World War, when funds for university expansion were non-existent. That he succeeded in carrying on the administration of the University during this period so successfully was a miracle. He retired as President in 1944, when he was elected Chancellor of the University; and he died in 1951. I had the honour on that occasion of moving in the Senate the resolution of condolence on his death; and I cannot do better than quote here the following paragraph from that resolution:

"It is not necessary to recite here the magnificent service Canon Cody rendered to his country, to his province, to his church, and to his university; for these are within the knowledge and memory of us all. We remember also with gratitude his humanity, his kindness, his deep interest in people of all types. His sympathy reached out to all; and his friends and acquaintances were legion. . . . But it is not necessary to lay stress here on the warm and affectionate esteem in which he was held; for this Senate has gone on record on several occasions with regard to the deep affection which the members of the University had for him. It is sufficient to say that for us 'there is a prince and a great man fallen this day in Israel."

A life of Canon Cody was published in 1953 by his friend, Bishop W. C. White; but there is comparatively little in this about his presidency of the University of Toronto.

President Cody was succeeded in 1945 by President Sidney Smith, who had come to the University a year before as Principal of University College and Assistant to the President. He had made a great success of his ten-year period as President of the University of Manitoba; and it was confidently expected that this success

the University into a university of the modern type. Many other faculties were established; and many additions were made to the physical equipment of the University. Space forbids the enumeration of these. It was a signal tribute to the President's administration of the affairs of the University, and his contribution to the national effort in the First World War, that he was in 1917 created a K.C.M.G. After twenty-five years of service, he retired as President in 1932; and he died in 1943. No account of his life has been published, except a forty-page tribute in the *University of Toronto Quarterly* for June, 1944. I

ventured to suggest at one time the publication by the University of Toronto Press of some of Sir Robert's papers on higher education in Canada, with a biographical introduction; but for some reason, the nature of which I never discovered, the suggestion was not approved.

When Sir Robert Falconer retired in 1932, he was succeeded by the Reverend Canon Henry John Cody. Canon Cody was one of the most distinguished of the graduates of the University of Toronto. He might, on two occasions, have become an Archbishop, but he preferred to become President of his *Alma Mater*. His

DR. EVANS' PREDECESSORS

would be repeated at Toronto. How far these expectations were fulfilled may be gathered from the following resolution, passed by the Senate of the University when, in 1957, President Smith resigned and, at the invitation of Prime Minister Diefenbaker, became Secretary of State for External Affairs in the Dominion Cabinet:

"BE IT HEREBY RESOLVED

"That the Senate of the University of Toronto record its appreciation of the invaluable contribution of Sidney Earle Smith in serving and developing this University during the twelve years he has been its President.

"That the Senate place on permanent record, while the memory of his labours is fresh and vivid, something of its grateful awareness of the man and his work in what concerns especially the academic life of the entire University.

"That it record its particular indebtedness for his constant concern for the rights and dignity of the Senate as a responsible body, for his assiduity in preserving the independence of its deliberations and judgments against the creeping assaults of formalism and bureaucracy, and for his unremitting struggle to extend its effective influence upon education beyond the immediate sphere of the Toronto campus by insisting that it adhere always to the highest standards of academic excellence.

"That as a body representing all parts of the University, it express its admiration and respect for the equity of his actions, the impartiality of his decisions, the balance and universality of his vision in dealing with the endless array of ordinary and extraordinary issues arising in a large and complex institution.

"That it acknowledge gratefully that he has shared with this University almost everything in the power of man to share; he has placed at its service his intellectual powers, his wisdom and counsel, his scholarship and professional accomplishments; he has showered upon it his moral wealth, the warmth of his love, affection, sympathy and kindness, the strength of his personal courage and fortitude; he has shared with it his family, his friends, his kinfolk, brightening with these gifts of fortune the often dull academic existence; his time, his energy, his health has for twelve years been the University's rather than his own; in brief, the University has been his life, and he has established a claim to its gratitude beyond the reach of adequate recompense. In person and fame Sidney Earle Smith may not conform to the restrictions of the University's motto which seems to favour imperceptible growth – *velut arbor aevo* – but he has all the strength and grandeur of its armorial oak flourishing *tamquam arbor plantata juxta rivos aquarum* and bringing forth fruit in due season."

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President Smith was succeeded by President Claude Bissell in 1958. When he resigned this post in 1971, three men spoke for the Senate. Extracts from the Minutes of the Senate for May 20, 1971, follow:

Rev. J. M. Kelly, President of St. Michael's College: "We experience, sir, a sense of loss since for us you have come to embody and symbolize not only in your office but in your very person the nobility of this University and her values and aspirations . . .

"No doubt, sir, the Bissell years will go down in our annals as turbulent and even explosive ones. The times cried out for a leader with flair, the charismatic touch and a talent for the eirenic. It was the extreme good fortune of this University that Claude Bissell was at the helm in Simcoe Hall . . . You, sir, have emerged from the ordeal as the nation's outstanding educator and the university you guided has grown in stature and has received world-wide acclaim. . . ."

C. Ian P. Tate, President, University of Toronto Alumni Association: "I have been asked to speak on behalf of the Alumni representatives on the Senate. It is somewhat hazardous to speak for the representatives of 130,000 members of the University community, but on this occasion it is easy, albeit with some sadness. . . .

"It was Claude Bissell who gave cause for Alumni to take new pride in their University as he deftly guided this enormously complex organization through an unmatched period of social upheaval, protest and challenge; guided this University through the bewildering array of, on the one hand, sitins, campouts, shoutouts; and on the other hand an apathy (or is it aloofness?) of so many who remained silent . . .

"Here is a forum from which your fellow Alumni can rise and say, 'Thank you, Claude Bissell. Thank you for maintaining the integrity of our University. If we are proud of this University – and we are – then we are proud of you. And we are'."

Dean J. W. B. Sisam: "The previous speakers have expressed the feelings of all of us – our pride and pleasure in your leadership and your many accomplishments on behalf of the University, and our sadness at your leaving the office in this University that you have done so much to enhance. . . . As the one who has longest been a member of this body, it is my privilege and great pleasure to present to you a small gift on behalf of the Senate."

This ceremony at the tomb of Cyrus the Great inaugurated Iran's celebration of the 2500th anniversary of the founding of the Persian Empire

Scholars celebrate a birthday

University of Toronto and McGill University were the key elements in fashioning Canada's gift to Iran on its 2500th birthday. The present, like the occasion, was something out of the ordinary – a conference on Iranian civilization and culture based on twelve first-rate papers given by as many Islamic scholars. More was involved than scholar talking to scholar. The themes and the way they were developed in sessions at the Ontario Institute for Studies in Education hurdled barriers between town and gown.

The idea of the conference was born in a committee chaired by the Hon. Jean-Paul Deschatelets, Speaker of the Senate, and charged with planning an appropriate Canadian contribution to

Iran's anniversary celebration. Senator Deschatelets asked Professor Roger M. Savory, chairman of Islamic Studies at U of T, and Professor Charles J. Adams, director of McGill's Institute of Islamic Studies, to make the idea work. This they did with the help of their colleagues and scholars drawn from Queen's, York, and Royal Ontario Museum.

The photographs: Mrs. Roland Michener (with Acting President J. H. Sword) and the Governor General (who opened the conference) exhibit some of the gifts and souvenirs from His Excellency's visit to Iran along with other heads of state last October. Senator Deschatelets is at the extreme right, above.

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Right: Professor Roger Savory gives the opening paper at the Toronto conference on Iran. Readers are invited to dip into the *Philosophers' Walk* section (next page) and see for themselves how interesting, comprehensible and non-esoteric he and other U of T professors can be. Professor Savory, McGill's Professor Adams, and their wives, went to Iran for the celebration as guests of the Iranian Government. The portrait beside him, an Iranian gift to the Governor General, took eight months to weave.

Above: papers given at the conference by Professor G. M. Wickens, left, and Professor G. M. Meredith-Owens, who is with his wife at right, are presented in whole or in part in *Philosophers' Walk*. The third man in the photograph, Professor E. J. Keall, is also in Varsity's Department of Islamic Studies.

The Empress of Iran, being welcomed to the University by Dr. Claude Bissell on her 1965 state visit to Canada, *above*, is seen with her husband, the Shah, in more familiar surroundings at right.
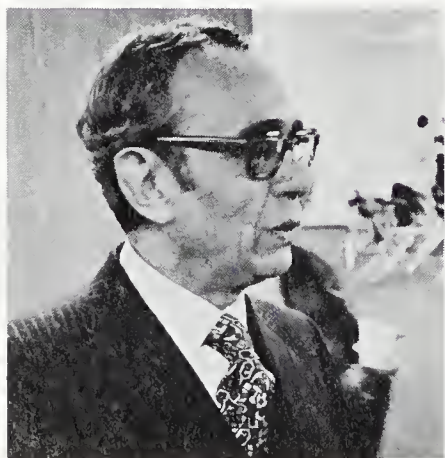
Left: Hon. Mohammed Goodarzi, the Iranian Ambassador to Canada, at the Toronto conference in December.

philosophers' walk

IRAN: *a 2500-year historical and cultural tradition*

*How was it with him? He fell a martyr! Where? In the plain
        of Mariya!*
When? On the tenth of Muharram! Secretly? No, in public!
*Was he slain by night? No, by day! At what time? At noon-
        tide!*
*Was his head severed from the throat? No, from the nape
        of the neck!*

*— These robust lines are from a 19th century work quoted
by Professor Roger M. Savory, Chairman of the University's
Department of Islamic Studies, in the opening paper for the
conference on Iran arranged by U of T and McGill in
December. A slightly abridged version of Professor's
Savory's paper begins in the adjoining column.*

*Professor G. M. Wickens, another member of the depart-
ment, and its former chairman, spoke on "The Imperial Epic
of Iran: a Literary Approach". We are privileged to publish
his paper, too. "A worm found in an apple is reared by a
girl of poor family, eventually becoming an enormous
dragon. . . ." What happens next? We suggest you consult
page 20.*

*A third member of the department, Professor G. M.
Meredith-Owens, took as his subject "Persian Manuscript
Illumination and Painting". The principal section of his
paper begins on page 28.*

ROGER M. SAVORY

We are gathered together to celebrate the 250th anni-
versary of the founding of the first Persian empire by Cyrus
the Great in 550 B.C. We are celebrating this anniversary
because the present Shāhanshāh of Iran sees himself as
being, in a very real sense, the heir of Cyrus the Great and
the inheritor of his empire. No one, I think, who was present
at the dignified and moving ceremony at the tomb of Cyrus,
would doubt this for one moment.

I think we should be clear at the outset exactly what it is
we are celebrating. We are not celebrating 2500 years of
unbroken empire, still less 2500 years of monarchy, with
king following king in unbroken dynastic succession.

What we are celebrating, I suggest, is a 2,500-year-old
continuing historical and cultural tradition, in which the
institution of the monarchy has played an important, indeed
an essential, part; an historical and cultural tradition so
strong that not all the political vicissitudes which Iran has
experienced, and military catastrophes which Iran has suf-
fered — and she has suffered a greater number than most
countries of the world, have succeeded in destroying it. The
purpose of this paper is to suggest what some of the in-
gredients of this tradition are, and briefly to discuss each
of them.

Since I have already stated that the institution of the
monarchy is an important, if not essential, part of this
tradition, it will be logical to begin by a consideration of
this institution. "An historical and cultural tradition" per-
haps adequately describes many of the elements which go
to make up this tradition, but as a description of its

ROGER M. SAVORY

monarchical component, it is somewhat jejune; here 'mystique' would be a better word, though one should immediately caution against the assumption that what we are dealing with is merely a personality cult of the charismatic type. Rather, we are dealing, to use Professor Inlow's memorable phrase, with "something deep and timeless and gaunt with age".[1]

What we are dealing with is, quite simply, the theory of the Divine Right of Kings, as slightly modified by the Persian Constitution of 1906. In the course of the 2,500 years of Persian history, the power of the Persian kings has from time to time rested on other, additional bases, some of which will be referred to in due course. But the original basis of their authority, the only pre-Eslāmic basis, is the theory of kingly divinity. Many people in our egalitarian age find this an unpalatable theory. The institution of the monarchy, however, lies at the heart of Persian culture and tradition, and an understanding of its role is of fundamental importance to the understanding of Iran, whether past or present. In the age of the common man, we have to face the fact that we are dealing with an unusual phenomenon, and an uncommon man. In our times, kingship, it has been said, is a "declining profession",[2] and Professor Inlow has pointed out that, "of the three great imperial rulers of the ancient world to enter the twentieth century – the Emperors of China, the Pharaohs of Egypt, and the Kings of Persia – only the Persian still reigns".[3] In order to explain the survival of the Persian monarchy in 1971, therefore, it is not sufficient to say, as people frequently do, "the Shah is an autocrat", implying that he maintains his position purely by the exercise of despotic power. In the long course of Persian history, as in the history of every other nation in the world, despots have been put down and tyrants overthrown. The continued survival of the monarchy in Iran therefore postulates the continued support for this institution by a majority of the Persian people, and this in turn posits that the institution of the monarchy forms part of an historical and cultural tradition to which the majority of Iranians still subscribe.

I stated earlier that the original, pre-Eslāmic basis of the authority of the Persian kings was kingly divinity. The concept of the Persian king as a priest-king existed from the foundation of the Achaemenid empire by Cyrus. Both Greek and Jewish sources bear witness to this.[4] The Sāsānid kings, the founders of the second Persian empire, regarded themselves as ruling by divine right because they were the inher-

itors of the "kingly glory" or "royal splendour" (in Old Persan *hvarnah*; in Avestan: *khvarenah*; and hence, through a cognate form *kvarrah*, to the modern Persian *farr*).[5] The possession of this "kingly glory" marked the sacred character of their kingship. Unequivocal confirmation of the fact that the present Shah is regarded as inheriting the "kingly glory" (*farr*), is contained in the special hymn composed for the 2500th Anniversary celebrations. This hymn contains the words: *ze farr-e to bovad shahā, sa'ādat o baqā-ye mā*: "Our everlasting happiness and prosperity derive from your kingly glory, O king!"

With the Arab conquest of Iran and the overthrow of the Sāsānid empire in the 7th century, Persia was politically eclipsed for several centuries. This conquest changed the whole course of Persian history. First, the egalitarian religion of the conquerors, Eslām, superseded the ancient religion of Iran, Zoroastrianism, which had by Sāsānid times associated itself with the institution of the monarchy to produce a closely-knit alliance between Church and State. Eventually, the Persians adopted a heterodox form of Eslām, Shi'ism, and used it as a weapon against the Arabs. Second, the language of the conquerors, Arabic, for several centuries superseded the Pahlavi, or Middle Persian, language of the Sāsānid empire, as the administrative and cultural language of Iran – rather in the same way that Norman French replaced Anglo-Saxon in 11th century England. It was not until the 4th century after the *hejra*, or the 10th century A.D., that Persian reappeared as a written language, and, when it did, it was written in the Arabic script, and contained a large number of Arabic words which remained permanently absorbed into the language. Third, the (at least in its initial theory) more democratic Arab concept of an elective Caliphate challenged the ancient Persian tradition of an absolute monarchy based on the Divine Right of Kings. The very word for 'kin' in Arabic, 'malek', was repugnant to most, though not all, Arab ears, attuned as they were to the concept of a tribal *sheykh*, freely elected by the members of the tribe, but entitled to their allegiance only as long as they judged he deserved their respect. After the death of Moḥammad, therefore, the Arabs designated their leaders by the term *khalifa*/Caliph ('successor – [of the Prophet of God']), or *emām*, ('leader of the Moslem community'). They were so opposed to the dynastic principle that the Omayyad Caliph, Mo'āwiya, was execrated for introducing this principle into Islam, by securing the

How the monarchical tradition survived for 300 years without political reality, flowered briefly, went underground again, and then regained its old glory based on divine right

succession of his son, Yazid. The only dissentient voice in this chorus of universal condemnation was that of the great Moslem thinker Ibn Khaldun, for whom the transition from a Caliphate based on the religious law of Islam, to a realm in which the Caliph exercised royal authority, was "natural, and, therefore, necessary".[6] Most Arabs, however, considered that the term *al-maleko* ('Sovereign'), since it was one of the 'Most Beautiful Names' (*al-asmā al-hosnā*) of God, should properly be used only to describe the perfection of divine power.

Under the whole weight of Islamic law and tradition, however, the Persian monarchical tradition remained alive, although for three centuries devoid of any semblance of political reality. Then, during the brief 'Iranian intermezzo,' as Minorsky called it, from the middle of the 10th to the middle of the 11th century A.D., during which a Persian dynasty, the Buyids, usurped the political power of the Caliphs, this tradition revealed a glimpse of its continuing vigour, when some of the Buyid rulers styled themselves *shāhanshāh*, 'King of Kings' – the *khshāyathiya khshāya-thiyānām* of the Old Persian inscriptions – even though their rule did not extend over all the Iranian lands. With the arrival of the Seljuq Turks, and the reimposition of Islamic orthodoxy in Iran, the Persian monarchical tradition once again went underground, but was kept alive and nourished by other elements of the Iranian historical and cultural tradition of which we shall shortly speak. Both under the Seljuqs, and under their successors in Iran, the Mongol Ilkhans, a series of brilliant Persian *vazirs* tried to civilize their uncultured nomad masters, and to mould them into likenesses, however feeble, of Persian kings. Finally, in 1501, the Safavids revived in all its former glory the ancient Persian tradition of kingship, based on divine right. They succeeded in doing this because they cleverly pulled together several of the other strands which, when plaited together, formed the unbreakable rope of the Iranian historical and cultural tradition. It is now time to see what some of these other strands were.

In the first place, there is the ethnic tradition. Now obviously, in a country which has been overrun by so many waves of conquerors of different races – Arabs, Turks (of many different types) and Mongols – the purity of the original Aryan stock has been somewhat diluted over the centuries not to mention the effect of large imports of Armenians, Georgians, Circassians, and the like. Neverthe-

less, despite all the intermingling that has gone on, an Aryan type is still distinguishable; the "average" (and I emphasize the quotation marks) Iranian does not look like the "average" Turk or the "average" Arab. So, while one cannot agree with the celebrated Nazi minister Dr. Schacht, who visited Iran in 1936 to tell the Persians that the Führer had exempted them from the provisions of the Nuremburg race-laws, because he considered them to be pure Aryans, one cannot agree either with Amin Banani when he asserts, with reference to the Safavid period, that "we must discount any ethnic connotation in this 'national spirit' which, it is alleged, enabled Persia to withstand powerful enemies to east and to west."[7] The truth is, I think, that in the course of time, foreign invaders who settled in Iran and were subjected to the powerful influences of the Iranian historical and cultural tradition, came to think of themselves as Iranians. In this way there developed a sort of 'Iranismus', a feeling of common identity which was not based necessarily on blood-relationship, but upon a sense of being different from the peoples of the countries on their borders. Even the *qezelbāsh* Turcoman tribesmen who constituted the military basis of the power of the Safavid state, although they felt extremely 'Turkish' when engaged in some quarrel with a 'Tājik', that is to say, a Persian, official, considered themselves to be 'Iranians' as opposed to the 'Turks' of the Ottoman empire, or the 'Turks' of the Ozbeg empire in Transoxania.

Closely linked with this idea of 'Iranismus', however one defines it, is the idea of identity based on geography, although the geographical boundaries were based on cultural criteria rather than on political frontiers – the Iran of today is considerably smaller than the Iran of Safavid times, large areas of territory in the north-west and north-east being annexed by the Russians during the 19th century, and some territory in the east, including the important city of Harāt, being lost to the Afghans. In the course of their long history, Iranians have exercised political power over many areas peripheral to Iran proper; for this 'Greater Iran', the French coined the convenient term 'L'Iran extérieur'. But the heart-lands of Iran have always been the Iranian plateau, the historic homeland of the Aryan peoples, and it is not accidental that this fact has always been reflected in the name given to this area by the Iranians – *aryānām khshathram*, 'land of the Aryans', in Old Persian; *ērānshahr* in Sāsānid times, and in modern times, *Irān-zamin*, or Iran. Across the Oxus river, the traditional boundary, lay Turān, the

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One after the other, alien dynasties became dependent on the vast, complex, hierarchical, bureaucratic structure built by the Persians during their centuries of imperial government

land of the Turanians or Turkish peoples, the traditional enemies of the Iranians. The two were sharply distinguished throughout Persian history, and the epic legends of the wars between Iran and Turān enshrined in the Iranian national epic, the *Shāhnāma*, were kept alive by the repeated invasion of the Iranian plateau by Turkish and other nomadic peoples from the steppes of Central Asia. Similarly, although Iranians have always been ambivalent about Mesopotamia, because in pre-Islamic times it formed for over four centuries an integral part of the Sāsānid empire — in fact, one of the Sāsānid capital cities, Ctesiphon, was not in Iran at all, but near modern Baghdad — they have always been quite clear that they did not wish to live in the hot, steamy lands round the head of the Persian Gulf, or across the Gulf in Arabia proper; "the places where the Arabs live are fit only for dogs", said the great Sāsānid king Shāpur II.[8]

Closely associated with the concept of Iranismus (a powerful factor despite the fact that, as we have seen, the original Aryan stock has been much diluted over the centuries), and with the idea of a common identity based on geography (a powerful factor despite the fact that, as we have noted, *irānzamin* has meant different things at different periods of Iran's history), is the sense of possessing a distinctive history. Iran's 2,500-year tradition of monarchy makes it unique in Iranian eyes among the countries of the Middle East; so does its ability over the centuries to civilise and assimilate so many waves of foreign invaders; and so does, in more modern times, the fact that Iran, alone of the principal nations of the Middle East, was never a colony of any of the Great Powers. It will by now be apparent that, although each strand of the Iranian historical and cultural tradition so far enumerated is a separate and identifiable element of this tradition, all the strands are closely interwoven and inter-dependent, and derive strength one from the other, or, to change the metaphor, are all interlocking pieces of the total picture of Iranian history and culture.

Another element of the total tradition which, again, is readily identifiable as a separate element, but which contributes also to the Iranian's sense of possessing a distinctive history, is the bureaucratic tradition. This is an extremely

tough and flexible strand in Iran's historical tradition. From early times, the Aryans were famous for their administrative ability and their legal system — the latter immortalized by the reference in the Book of Daniel to "the law of the Medes and Persians, which altereth not." After the Arabs conquered Iran in the 7th century, the Caliphs found they could not govern their vast new empire without making use of Persian administrative and financial expertise, obtained in the course of centuries of imperial government. This tradition of Persian bureaucratic expertise continued, and alien dynasty after alien dynasty found itself compelled to rely on the administrative ability of Persian *vazirs* (ministers), *mostowfis* (comptrollers of finance) and the whole vast, complex and hierarchichal bureaucratic structure built up by the Persians over the centuries.

Since many of these foreign rulers were totally without experience in these matters, administrative manuals were written to guide them, works which were part introductory courses in political science, and part distilled worldy wisdom of the kind dear to Persian hearts. The monarch would be advised not only on the art of controlling his armed forces, and on the conduct of kingship, but also on such personal matters as marrying a wife, and the purchase of houses and estates. Thus arose a whole genre of literary works known by the general title of "Mirrors for Princes", and this leads me to the next strand in the Iranian historical and cultural tradition which I wish to identify — the literary tradition. This literary tradition is in many ways one of the most important strands in the whole historical and cultural tradition, because literature was one of the chief vehicles by which this tradition was transmitted from generation to generation. Closely allied with the literary is the linguistic tradition. The Persian language, which was, of course, the medium by means of which the literary tradition was transmitted, has undergone remarkably little change during the last thousand or more years. Naturally, the vocabulary has not remained constant, and the grammar of classical Persian has been modified, but the Persian of the *Shāhnāma*, completed about A.D. 1000, is far more readily understood by the Irāni of today, than is Chaucerian English by the contemporary English-speaker. One finds in the pages of Beyhaqi, an 11th century Persian historian, or in the great 13th century epic of the mystic Jalāl al-Din Rumi, innumerable colloquial expressions which are still in use today. Because of this, the Irāni feels himself to be in close contact

with his literary heritage, which in its turn has transmitted many essential ingredients of the Iranian historical and cultural tradition.

The literary tradition itself may be subdivided into two main branches – the national epic, and the "Mirrors for Princes" tradition which I have just referred to. Of the immense influence of the Iranian national epic, especially in its grandest form the *Shāhnāma* or Book of Kings, in keeping alive and transmitting the tradition of the institution of the monarchy, I shall not speak here, since this will form the subject of another paper.

Possibly the outstanding work of the "Mirrors for Princes" genre is the famous *Siyāsat-nāma*, 'the Book of Government' or 'Rules of Conduct for Kings', written toward the end of the 11th century by Nezām al-Molk, who was for over thirty years the *vazir* of two successive solṭāns of the Turkish Seljuq dynasty. These alien monarchs, who came from a line of nomad chiefs from the Kirghiz steppes of Central Asia, were very much in need both of the wisdom of an experienced Persian bureaucrat and his advice on how to govern a large empire of settled peoples, and also of the civilising influence of Persian culture. A large proportion of the anecdotes which Nezām al-Molk uses to illustrate his points, relate to the Sāsānid kinds or to the 'Iranian intermezzo' under the Buyid rulers. In this way, Nezām al-Molk emphasizes the continuity of the Persian bureaucratic tradition, and incidentally of the institution of the monarchy. The whole history of Islamic Persia demonstrates that, whenever a major conflict occurred between Islam and the Iranian historical and cultural tradition, the latter won. Furthermore, Nezām al-Molk was merely being a realist, for by his time the duality of the caliphate and the sultanate was an accomplished fact, whatever the more ostrich-like political scientists like al-Māwardi might assert, in defiance of reality. Toward the end of the ʿAbbāsid Caliphate, the Caliphs had so far departed from the original theory of this office as to style themselves 'the Shadow of God' (*zellollāh*), and *khalifatollā* ('successor of God'), in place of the original *khalifatorasulellāh* ('successor of the Prophet of God') – a rather significant change! The use of such titles brought the Caliphs within hailing distance of the ancient Iranian theory of the divine right of kings. Along with this theory went the principle, so hated by orthodox theologians and jurists, of the right of the Caliph to designate his successor – a principle which the more realistic jurists managed to ac-

commodate within the system of Islamic jurisprudence. In support of my contention that, if there were a conflict in the soul of a Persian between his loyalty to Islam and his allegiance to the Iranian historical and cultural tradition, the latter was invariably victorious, I will cite only the case of another eminent 11th century Persian, the theologian and jurist al-Ghazāli – a man so distinguished as a scholar that he was known as *Ḥojjat al-Eslām*, ('The Proof of Eslām'). Al-Ghazāli writes of the theory of kingship in terms which are a clear echo of Sāsānid theory, and owe little to Eslām, although "he seeks to give Quranic sanction to his interpretation. 'It must be understood', he says, 'that God gave (the king) kingship and the divine light (*farr-i izadi*)".[9] The use of terminology like this, by a man steeped in the traditional learning of Eslām, must have been enough to make the pious ʿOmar turn in his grave!

It is now time to consider the function of the religious tradition as an important strand in the Iranian historical and cultural tradition. By adopting, and adapting to their own ends, the Shiʿi (or heterodox), rather than the Sunni (or orthodox), form of Eslām, the Persians forged a political weapon of immense strength, which has served them well throughout their centuries of effort to preserve their historical and cultural tradition, and in recent times has constituted an important element in Iranian nationalism.

Shiʿism was, in origin, a political movement, the Shiʿat ʿAli ('Party of ʿAli') which supported the claim to the Caliphate of ʿAli, the cousin and son-in-law of the Prophet, Moḥammad.

To this political stem, the Shiʿat ʿAli, the Persians grafted the legend that Tayr al-ʿĀbedin, the son of Ḥoseyn, the younger son of ʿAli, married the daughter of Yazdegerd III, the last of the Sāsānid kings. In this way, Shiʿism was shifted out of its purely Eslāmic context and linked with the Iranian historical tradition. When Ḥoseyn was killed at Karbalā by the troops of the Omayyad Caliph Yazid, Shiʿism acquired a martyr-figure with a powerful and lasting emotive effect. The events connected with the death of Ḥoseyn are still commemorated during the month of Moḥarram by mourning-processions and the performance of passion-plays. As Gustav Thaiss has put it: "the performance and ritual remembrance of the myth is the result of the desire to express certain sentiments associated with basic problems confronting man as Being and *man as Iranian*" (my italics).[10] An extract from a 19th century *marthiya*, or threnody

on the martyrdom of Ḥoseyn, may give some idea, even in translation, of the powerful emotive effect of these performances: [11]

*What rains down? Blood! Who? The Eye! How? Day and
    Night! Why?*

*From Grief! What grief? The grief of the Monarch of
    Karbalā!*

What was his name? Ḥusayn! Of whose race? ʿAlī's!

*Who was his mother? Faṭima! Who was his grandsire?
    Muṣṭafa!*

*How was it with him? He fell a martyr! Where? In the Plain
    of Mariya!*

When? On the tenth of Muḥarram! Secretly? No, in public!

*Was he slain by night? No, by day! At what time? At noon-
    tide!*

*Was his head severed from the throat? No, from the nape
    of the neck!*

*Was he slain unthirsting? No! Did none give him to drink?
    They did!*

Who? Shimr! From what source? From the source of Death!

*Was he an innocent martyr? Yes! Had he committed any
    fault? No!*

What was his work? Guidance! Who was his friend? God!

Who wrought this wrong? Yazid! Who is this Yazid?

One of the children of Hind! By whom? By bastard origin!

Did he himself do this deed? No, he sent a letter!

After Karbalā, Shiʿism ceased to be merely a political movement, and became a politico-religious movement which rapidly developed its own distinctive theological doctrines and system of religious law. We are concerned here with only one aspect of this development, the one which bears on the institution of the monarchy, namely, the doctrine of the imamate as developed by Shiʿis. To the Shiʿis the term Emām meant ʿAli and his eleven successors culminating in the Mahdi, the twelfth or Hidden Emām, otherwise called the Lord of the Age, who disappeared from earth in A.D. 874. These Twelve Emāms possess, in the

Shiʿi view, the pre-eminent prerogatives of being the witness and interpreter of the revelation, and are the sole repositories of all truth and knowledge. They are distinguished by two special characteristics which have no parallel in Sonni Eslām: the first is the redemptive nature of the suffering and martyrdom of the Emāms, which gives rise to their function of intercession; the second is their quality of sinlessness or infallibility. This latter doctrine was promulgated by Shiʿi theologians as early as the 10th century A.D., with the clear purpose of demonstrating the superiority of the Shiʿi Emām over the Sonni Caliph. In 1501, therefore, when the Ṣafavid kings made Shiʿism the official religion of their new state, and claimed to be themselves the representatives of the Hidden Emām, they united with the traditional theory of the divine right of Persian kings, another powerful element in the Persian historical and cultural tradition; by so doing, they satisfied the latent nationalist aspirations for which Shiʿism had been a medium of expression for nine centuries, and thus reinforced the institution of the monarchy with another basis of power, as strong and as absolutist as the original theory of divine right. The Emāms are hypostases of God. They direct the destinies of the world, and preserve and guide it. With them, all is salvation; without them, all is perdition. Their ministry, their intercession (*tavassol*), are indispensible.

The final strand which I wish to identify in the Iranian historical and cultural tradition, is what one might call the "pre-Eslāmic socio-cultural tradition." Although some features of this pre-Eslāmic tradition were, after the advent of Eslām merged and blended with Moslem social and cultural institutions, their pre-Eslāmic provenance is clear. One example of a pre-Eslāmic institution which continued to flourish unchanged, is the *zurkhāna*, which is believed to have "originated in a remote period when Iran was occupied by foreigners and the youth of the country trained in secret against the day when they would be able to expel the invaders".[12] Another example is the festival of Now-Ruz, which marks the spring equinox and is the Iranian national festival *par excellence*. The fact that Iranians have celebrated the arrival of spring since Achaemenid times is "evidenced by the long rows of sculptured reliefs at Persepolis showing groups of people from every part of the mighty Achaemenid empire bringing their tribute to the ruler of Iran on this occasion".[13] The Now-Ruz festival is as important for Iranians today as it was 2,500 years ago,

Secret societies, along with their complicated initiation ceremonies, use of allegorical terminology and cabalistic signs, have been durable strands in the Persians' strong rope

and, although the institution of the *zurkhāna* is declining, its importance as part of Iran's cultural heritage is recognised by the fact that the state lends its patronage to a troupe of *pahlavānān* (lit.: 'champions'). The very use of the term *pahlavān* is a direct link with Iran's pre-Eslāmic Parthian heritage.

The concept of the *pahlavān*, the hero who was not only brave but also noble, just and upright in all his dealings, developed in Eslāmic Iran into the concept of the *javānmard*. In its classical sense, *javānmard* denoted a man who possessed noble qualities; "he carried out his promises, spoke the truth and developed such virtues as perseverance, valor and purity in thought, desire and action. He avoided bringing harm to anyone, championed the weak, and opposed cruelty".[14] The Persian word *javānmard* is synonymous with the Arabic *fatā* in the sense of 'young man,' and the abstract noun *javānmardi* was used as the Persian equivalent of *fotowwa* (Persian: *fotorrat*). From at least as early as the 5th century A.H./11th century A.D. groups of people, mainly of the lower orders, began to band together in *fotowwa*-organisations. The object of these organisations was to persuade "the ranks of the ordinary people to show concern for good morals and to forsake blameworthy habits. They had a special purpose, and special rules of conduct, orders and signs".[15] Massignon has defined *fotowwa* as 'pacte d'honneur artisanal." In this paper, however, I am not concerned with the *fotowwa* organisations as a force for moral good in society. The point I wish to emphasize is that these and similar groups, with their complicated initiation ceremonies, their use of allegorical terminology and cabalistic signs, and their secret organisation, were the perfect vehicle for the transmission of heterodox Shi'i religious ideas, which formed part of the Iranian cultural protest against alien rule. The authority of 'Ali himself is invoked to justify the existence of *fotowwa* organisations.

I have described briefly some of the principal elements which have made up, and in many cases continue to make up, the distinctive Iranian historical and cultural tradition. Other speakers will, in the course of this conference, refer to other aspects of this tradition, but I hope I have said sufficient to indicate why it is that, when all these manifold strands are plaited together, the resulting cord has been for the Persians, through twenty-five centuries, a veritable 'strong rope'.

1) E. Burke Inlow, *The Divine Right of Persian Kings*, in *Journal of Indian History*, Vol. XLV, Part II, No. 134, p. 400.
2) E.A. Bayne, *Persian Kingship in Transition*, New York, 1968, p. 248.
3) E. Burke Inlow, *op. cit.*, p. 399.
4) *ibid.*, p. 407, 409.
5) See R.N. Frye, *The Heritage of Persia*, London 1962, p. 42.
6) See Erwin I.J. Rosenthal, *The Role of the State in Islam: Theory and Medieval Practice*, a paper presented to *A Colloquim on Tradition and Change in the Middle East* at Harvard University, March 1968. I have paraphrased some of Professor Rosenthal's words here. See also Muhsin Mahdi, *Ibn Khaldûn's Philosophy of History*, University of Chicago Press, 1964, p. 206.
7) Amin Banani, *The Social and Economic Structure of the Safavid Empire in its Heyday*, a paper submitted to the Harvard *Colloquium on Tradition and Change in the Middle East*, December 1967, p. 5.
8) The *Fārsnāma* of Ibnu'l-Balkhi (ed. G.Le Strange and R.A. Nicholson), 1921, p. 67 (E.J.W. Gibb Memorial Series, New Series, No. 1).
9) A.K.S. Lambton, *The Theory of Kingship in the Nasīhat ul-Mulūk of Ghazāli*, in *Islamic Quarterly*, I/1, 1954, p. 51.
10) Gustav Thaiss, *Religious Symbolism and Social Change: The Drama of Hussain*, a lecture delivered at McGill University February 1970, p. 20.
11) The translation is by E.G. Browne; see his *History of Persian Literature*, Vol. IV, p. 177 ff.
12) D.N. Wilber, *Iran, Past and Present*, 6th ed. Princeton 1967, p. 184.
13) D.N. Wilber, *op. cit.*, p. 185.
14) Reza Arasteh, *The Character, Organization and Social Role of the Lutis (Javanmandan) in the Traditional Iranian Society of the Nineteenth Century*, in *Journal of Economic and Social History of the Orient*, February 1961, p. 47.
15) 'Abbās Eqbal, quoted in R.M. Savory, *Communication*, in *Der Islam*, Vol. 38/1–2, 1962.

The imperial epic of Iran: a literary approach

When I was first asked to give a paper in this series, it was in my mind (and also doubtless in the minds of others) that I might speak on Persian literature in a very general way. But over the last year or so I have done just that, on three occasions, in a fairly serious and thoughtful fashion. I therefore realised very acutely how difficult it could be to appear both popular and interesting on the general theme, while still saying something worthwhile and original; and – quite frankly – I shrank from the prospect of trying to produce yet another version of the same story. It therefore seemed altogether preferable to speak about one major and timely aspect of the literature, particularly since it was one that sufficiently engaged my own enthusiasm as to offer a good hope of arousing real interest in my listeners.

Many of the ideas in this paper have been undoubtedly maturing in my mind since I was first compelled, some 34 years ago, to read a portion of the *Shāhnāmeh* not for its own splendid sake but as a tool on which to practise my elementary grasp of the Persian language. They are thus very personal ideas, very much a part of my life; but they have been sharpened and brought to the point of public utterance as the result of several recent discussions on literary and related matters with my colleague and friend, Dr. Rivanne Melnik. It is therefore only fitting that I make at this point a grateful, if necessarily somewhat imprecise acknowledgement of Dr. Melnik's part in this enterprise. She may yet have other things to say on her own account, or we may say them in collaboration; but meanwhile, the following speculations are offered in their own right as a tribute to some of the imperfectly appreciated versatilities of Iran's great singer of the royal saga.

Like most other works of Persian literature, the *Shāhnāmeh* has received very little analysis in purely literary terms, and even less in the context of really modern literary criticism. It is of course a commonplace among students of Persian literature that, in Iran itself, the traditional literary "appreciation" is confined to generalities or to technicalities of exegesis, prosody and figurative style, or tends to pass rapidly into biographical and anecdotal narrative. In the case of the *Shāhnāmeh*, moreover, the would-be modern critic's problems are compounded by a virtually unique element – namely the work's long-standing pious prestige as the classic literary affirmation of the Iranian sense of identity, particularly as that identity reveals itself in a consciousness of historic destiny embodied in both a royal personage and a masterly wielding of the Persian speech-form as such. Even a readable and valuable work like *Ferdowsi o She'r-e u*, published in 1967/1346 s. by that eminent man-of-letters Mojtabā Monovi, still very largely concerns itself with such aspects as these to the virtual exclusion of any validly literary analysis.

Non-Iranian evaluation (which of course connotes primarily Western studies) is an even less satisfactory case. At least no one can doubt that the Iranian tradition itself is one of both reverence and delight; but it would be next to impossible to point to a single Western scholar who has either approached the work with real respect or laid it aside with keen pleasure. All have at times commented on what they felt to be its inordinate length, its wearisome repetitions, its stock situations, its stylised language, its dullness and lack of humour – and so on and so forth. Those who have at least taken the work at all seriously (like Windischmann, or Geiger or Noeldeke, or their few modern successors like Wolff) have looked upon it primarily as a text for critical source-research or as a component in comparative studies in language or history or mythology. Perhaps the most favourable treatment the work has received in the West has been at the hands of art-historians, who have valued it – along with Nezāmi's *Khamseh* – for the superb illustrations that have often accompanied the best manuscripts. Virtually no one, however, up to and including Reuben Levy's 1967 précis in prose, has treated the work as a great piece of literature, much less as literature to be assessed in literary terms.

In this paper it is hoped to make some small beginning towards a literary appraisal of what might be termed Iran's

"royal work", par excellence. It might be appropriate for several reasons to base myself primarily, though not exclusively, on the early Sasanian period, specifically the reigns of Ardashir I and his son Shāpur I. In the first place, this was the portion I was obliged to read all those years ago in 1937; and I have read it many times since, so it is perhaps the one on which my thoughts about literary matters in the *Shāhnāmeh* have been most concentrated over the years. Secondly, it is – as most people will surely agree – far from being one of the most obviously literary portions of the *Shāhnāmeh*; for it is only loosely woven of threads that ostensibly neither match nor contrast – among them, rather flat narrative, both factual and apocryphal, from the historical period, grotesque magic and fantasy from the realm of the timeless, and didactic material that is of classic social significance but, by any immediate standards, of only limited literary merit: if such a portion of the work can plausibly be shown to contain several features of genuine literary significance, the case will have been fairly adequately suggested for the rest. My final reason for this choice is that the early Sasanian period is perhaps peculiarly fitted for consideration on this occasion, being – like the present – one of the notable ages of Iranian national resurgence after a lengthy period of decline and stagnation.

At this point it would be well to summarise the themes of the main subdivisions of this portion.

At the narrative's opening, for this period, the 500 years following Darius' death and Alexander's succession are dismissed in a few lines; and we are told how the true royal stock survived in hardship and obscurity until a descendant, working as a shepherd in South Persia, is recognised as kingly by his master in a dream and married to the latter's daughter. From this union is born Ardashir, who is sent by his grandfather to the Parthian court of Ardavān for his education and advancement. Before long, Ardashir offends Ardavān by surpassing the Parthian ruler's sons in his accomplishments; and he also attracts Ardavān's mistress, who, in her roles as royal confidant and treasurer, keeps him informed of Ardavān's anxieties and initiatives for his family's succession; when matters become dangerously critical, she aids Ardashir, materially and otherwise, to make his escape back to Fars. Ardāvan pursues them without success, and in subsequent battles he is progressively reduced to the support of his immediate family and entourage, while more and more forces gather to Ardashir. Ardavān is

finally killed and his line almost obliterated on the male side. As the first of his many struggles to maintain himself, Ardashir now engages in a long-drawn war with the Kurds, at length obtaining victory.

There follows here the episode of the Worm of Kerman. A worm found in an apple is reared by a girl of poor family, eventually becoming an enormous dragon in whose service the girl and her family achieve great power. Ultimately, the worm presents a serious threat to Ardashir, who is not only at first defeated but finds his homeland attacked and plundered in his rear by other enemies as well. At last he obtains access to the worm, disguised as a grateful merchant come to pay tribute; he kills the creature by feeding it a diet of molten metal, and goes on to defeat and kill its cohorts in battle. On the site of the worm's stronghold, as one of his many measures to restore and strengthen the Zoroastrian faith, he erects a fire-temple and makes provision for worship in the old religion.

At this date begins official Ardashir's reign of "40 years and two months", and he establishes his court in Ctesiphon, near the modern Baghdad. He now seeks in marriage the daughter of his old enemy Ardavān, primarily so that she can be induced to reveal the whereabouts of her father's great treasure. Whatever her own feelings towards him, she is pressed to kill him by her elder brother, who has escaped to India and now sends her poison and reproachful admonitions to use it forthwith. King-favouring fate intervenes before the Shah drinks the poison; and when her treachery becomes apparent, Ardashir gives orders for her to be killed despite her claim to be now pregnant by him and his own keen desire for an heir. But his loyal first-minister, conscious of the desperate need for established succession, shelters the girl in his own home; in a macabre side-incident, this faithful servant avoids scandal by castrating himself and depositing in the royal treasury a sealed and dated receptacle containing his manhood. Shāpur I is born of Ardavān's daughter, and is eventually recognized (a very common occurrence in the epic) by his father from among several youths playing in a polo match. Ardavān's daughter, still alive, is forgiven and restored to a position of honour.

At this point, Ardashir, anxious like Ardavān before him, sends to an Indian sage for advice on the future and for some encouragement to believe he will soon find rest from his constant struggles against enemies. The answer comes that peace and tranquility may be expected only when

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Ardashir's line is joined with that of Mehrak, one of the several treacherous rivals the Shah has had to eliminate in the course of his rise to power. Ardashir is outraged and vows to seek out and kill the one child of Mehrak, a daughter, who has hitherto eluded him. Fate once again intervenes, and the heir-apparent Shāpur accidentally meets and falls in love with Mehrak's daughter, who is living in obscurity with a village headman's family. From their union is born Ormozd, and he is reared secretly until (once again) his grandfather picks him out at a polo match by his kingly skill and daring. The Shah accepts the workings and wisdom of fate, recalling that since Ormozd's conception he has known peace and contentment as promised by the Indian seer. Here follows a long, and classic, passage on Ardashir's political sagacity and administrative ability; then an encomium upon Ardashir by a certain Kharrād; next a discourse on the ultimate faithlessness of fate, at least in its dealings with human beings as individuals; Ardashir's last injunctions to Shāpur before dying; and finally a short section in praise of God and in commendation of the poet's prospective patron, Mahmud of Ghazna.

Shāpur's historically eventful reign of 32-odd years is dealt with in about one-seventeenth of the space given to his father. There is a passage of conventional exhortation to the great administrators of the realm, and an account of Shāpur's wars with the Romans and the capture of their general. Peace comes at the last.

So much for a bare synopsis of the material in this section of the *Shāhnāmeh*, some mere 3% of the whole work. In what ways may one interpret this section as a piece of work revealing a high degree of literary skill? The *Shāhnāmeh* is commonly referred to, at least in the West, as an epic: in

Iran itself there is no genuine, indigenous word for the genre to which this work might loosely be said to belong. However, as there is no clear agreement, even in the West, on the essential nature of the epic, and since the *Shāhnāmeh* is in all sorts of ways in a class apart – in both Persian and world literature – the term epic is not altogether enlightening; but it is convenient and handy, and there seems little point in trying seriously to replace it. However, one feature the work displays quite unmistakably, in the first place, and that is the tension of great drama – a tension, moreover, not only of language and the confrontation of persons with persons or with events, but one of overall conception. At no point in this vast cavalcade are we in any serious doubt that the true line of kingship, as distinct from the individual kings, will survive – certainly until the coming of Islam, and perhaps even beyond that. At the lowest mechanical level, to demonstrate this theorem is the avowed purpose of the work as a whole. But on a higher literary plane also, throughout the course of the narrative, the bearer of kingship is constantly recognised, helped and protected by a whole series of figures – some of them gigantic and heroic and enduring like Rostam, others obscure and ephemeral (shepherds and boatmen are the commonest representatives from among the people), while still others – though ostensibly folk-figures – carry a shadowy suggestion of the supernatural and the angelic. Of course, for any with what Ferdowsi would call clarity of eye and heart, the true king carries around him a royal aura, the *farr*, that is both physically and psychologically palpable. Nevertheless, if all is due to come out right in the long run, there are many tragic failures along the way, and even more frequent examples of the royal figure's veritable human nature threatening to impede the ultimate success of his cause, to say nothing of instances where his weaknesses help it along. In many and varied ways, this long line of princes interacts (to use the modern terminology) with the end-purpose of fate and of their own loyal followers, but by no means do they always dovetail with it. These rulers are, in other words, realistically enough conceived to be often unwise, headstrong and hubristic – sometimes almost comically so. A few are almost constantly thus (e.g. Kai Kā'us), some only in spells (like Adashir), while others begin well and end irrevocably badly (like Jamshid). From one point of view, the whole massive sub-epic of Rostam is a prolonged instance of such dramatic tensions, though it has many subordinate tensions besides.

"Could you use a hired hand, passing this way, down on his luck?" asked the smelly young shepherd who, in the course of time, stood revealed as a survivor of the true royal line

Let us consider some examples of this sort of situation as they work themselves out in the cases of Ardashir I and Shāpur I. Dramatic tension, often associated with irony and humour, will be my main concern, but I shall seize the opportunity to touch briefly on several other literary and related features which seem to me to have been largely ignored by others so far. It may be that I shall attempt too much, and so produce a measure of mental and emotional congestion; but I would plead that it is in a good, and even a desperate, cause; and I certainly propose to develop each of these ideas elsewhere, as suitable opportunities arise, in more disciplined and rigorous categories.

The opening passage, where the defeated royal line endures centuries of poverty and obscurity in India and Iran, is a low-key masterpiece of Ferdowsi's technique. Not only do we here have tension, but also – lightly but significantly introduced – the constantly present feature of dramatic irony: we ourselves know the true identity of these honest labourers, but virtually nobody else does, and even they themselves seem at times but dimly aware of their royal heritage and destiny. Even when the action starts to move again, the unknown prince is still busily playing his natural (if symbolic) part as a shepherd. When he takes service under the landowner who finally recognises him in a vision, there are no heavy, mechanical portents, only the simple – practically colloquial – questions: "Could you use a hired hand, passing this way, down on his luck?" (*bedu goft(e) mazdurat āyad bekār/keh idar gozārad beh bad ruz(e)gār*). And when, after consecutive dreams revealing the young man's, or his descendants', glorious future of temporal and spiritual power, the landowner summons him, there is still no forcing of the action: "He ordered the head-shepherd should come to him from the flocks, on a day of wind and snow; who came to him, panting, in his cloak – the woollen garment filled with snow, his heart with fear." Anyone who has spent a winter's day among the nomads of Iran will appreciate this as a vignette of high artistry (even in my version); but it is more – it holds off the great movements of fate, forcing them to play themselves out in the business of daily living. Again, as Bābak tries to persuade the young man to speak of his background and family (for even inspired dreams must be tested in the *Shāhnāmeh*), the shepherd is silent and ultimately speaks, in very restrained language, only after obtaining a sworn guarantee for his security. No instant recognitions here, no ringing declara-

tions, no bold decisions. And Bābak, despite his tearful joy at confirming the survival of the true royal line, is nevertheless abruptly practical in his dismissal of the smelly young shepherd to the bath (*begarmābeh show*) before proceeding further. Throughout the poem royalty is associated, in high symbolic drama, with a pastoral aristocracy, and there is no indignity in honest labour in such pursuits, but the earthy realities of the pastoral life are never ignored.

Even later, when the royal figure has married Bābak's daughter and lives (somewhat improbably) in elegance and splendour, there is no rapid restoration of the right order of things. All must work itself out through human motivation, even where humanity is at its weakest. When Ardashir is born and grows to young manhood, he is sent by his wise old grandfather to the Parthian court of Ardavān in North Persia. (As an aside, we may here point out other subordinate tensions in the work, such as the fruitful ones between grandfathers and grandsons: those between fathers and sons – of which Rostam and Sohrāb offer the best-known example – are often highly destructive.) Now Ardashir is sent at Ardavān's own request, for the latter has heard of his "accomplishments and wisdom". Preceding lines also dwell on his appearance and his true descent, and in later passages other gifts are mentioned. But the decisive action is sprung by none of these aids to greatness; rather, by the natural, often unbridled, urges of a young man in high health and prideful spirits. The ironies and tensions lie thick hereabouts, though never obtruded. Here are a few.

The old grandfather, whatever his secret knowledge and his high hopes for his grandson, is on excellent and respectful terms with the Parthian usurper, who is in effect precipitating his own downfall by his desire to embellish his court with gallant youths like Ardashir. Again, Ardavān persuades Bābak to relinquish his beloved grandson with vows (which he inevitably, because of Ardashir's nature, will not be able to keep) to treat him exactly as one of his own sons; the grandfather, on his side, plays a part entirely in character by giving the youth prudent advice about his conduct, which Ardashir at the time may well intend to follow, but which – if actually put into practice – would effectively rule out his future greatness as purposed by fate. For the moment, at any rate, all goes well; and the ironies are evident, as they should be, only in the reflection of what follows. Neither Ardavān's figure and character nor those of his family are at this time presented in anything but a

A calm, intelligent, practical and strong-minded girl-Friday is caught up by a passionate obsession for a royal aspirant and, on his behalf, plots furiously against her master

dignified and generous light: their only real defect is that fate cannot be on their side, for they are not of the true royal line. (Only much later do two mysterious young men speak of Ardashir as having escaped "the palate and the breath of the dragon"; but this is less a designation of Ardavān's character than a clear casting of him for the malevolent role in a quasi-cosmic drama.)

When the crucial quarrel erupts between Ardashir and Ardavān -- over the fact that the former not only surpasses Ardavān's son on the hunting-field, but refuses graciously to back down and even calls the Parthian prince a liar who makes false claims – Ardashir is sent to be Ardavān's head-groom and odd-job man (*behar kār(e) bā har kasī yār(e) bāsh*). This is not quite "clogs to clogs in three generations" (as the old Lancashire saying has it), but it is a sufficiently ironical come-down to make what follows not merely plausible but inevitable. Ardashir chafes and plots (as the poet puts it, his head is "full of alchemy"), and he complains to his grandfather, who writes back, still very much in character: "O youth, little-wise, part-ripe . . . . you are his servitor, not his relative; he showed not you the enmity in malice that you have shown yourself by your unwisdom!" But he sends him money and supplies, and bids him lie low in hopes that time will heal the quarrel. Ardashir goes his own way, putting his mind now to *nairang o owrand*, the "craft and deceit" without which even fate cannot bring the royal aspirant to his rightful end, and which are in no way seen as a detraction from his character or his felicitous

auspices. Outwardly he lulls suspicions by adopting the life-style of a frivolous playboy.

The events that follow, leading to the ultimate confrontation, are brought about and directed, however, not by any scheming on Ardashir's part but by the resourcefulness of Ardavān's girl-Friday, Golnār – one of a line of remarkable female characters that form one of the poem's most striking features. This spirited girl's one weakness is a passionate obsession with Ardashir (which gives Ferdowsi the opportunity to write some rarely tender and emotional lines: Ardashir, by contrast, is cool and detached, even peevish – a mood set by his first words when he awakes to find her at his pillow: "Where have you sprung from?" (*az kojā khās(e)ti*)). So much for her weakness, but in all other respects she is calm, intelligent, practical and strongminded. It is no accident that the great Ardavān not only needs her constantly by him, but is described as unable to begin his day unless – another supreme irony! – she shows her auspicious face at his bedside each morning. At any rate, she establishes a liaison with Ardashir at considerable risk to herself, she skilfully manages Ardavān's affairs while keeping Ardashir fully informed of them and of her master's troubles and anxieties, and she plots and plans and urges various courses of action. Eventually she brings the critical news that astrologers, employed by Ardavān, have forecast the affliction of a great man in consequence of the revolt of a subordinate destined for greatness. (No ominous judgments of this kind, astrological or otherwise, are ever couched, in the *Shāhnāmeh*, in anything but vague – and sometimes ironically reassuring – terms.) This, she indicates, is Ardashir's moment, but he greets her – totally in character, but with what must be seen as an ironic resistance to destiny – with the following words: "Can't you do without Ardavān for a single day?" (*yak ruz(e) nashkibi az ardavān*): she has been absent for three days, busily following the full cycle of the astrological processes. Even when she convinces him that it is now or never, he is clearly "lost" rather than grateful, and promises her a share of his greatness if only she will accompany him on the flight to Fars. She, poor girl, needs no urging: staying only to say "I will never leave you so long as I live!" (*nabāsham jodā az tow tā zendeh am*), she hastens back to her quarters to organise all the material and other necessities for the escape. One of the most significant silences in the work touches her eventual fate, for she drops out of the narrative completely after

playing her usual important role on the return journey. Like Homer, Ferdowsi sometimes nods, but his shuttling back and forth of his *personae* is normally very skilful and thorough. Accordingly, I think we must regard this fade-out as deliberate, a further stroke in delineating the character of Ardashir himself.

In this portion of the work there are four major feminine figures: the girl; Ardavān's daughter (who, after marriage to Ardashir, tries to poison him); Mehrak's daughter (who secretly marries Shāpur); and Haftvād's daughter (the girl who finds the worm in the apple). The characters and the actions of these women illuminate not only Ferdowsi's skilful management of the fundamental tensions between the sexes, but also his ability to pass to and fro between delicate irony and outright comedy – I say this in the belief that the humorous side of the poet's work has hitherto been underestimated, if not virtually ignored. We have seen how Ardavān's daughter, in peril of her life, still manages to circumvent Ardashir's hot-tempered decree, and this for his own ultimate and inevitable good – one of the most fateful events in the whole work, for the true line is about to die out. In the cases of Golnār and Mehrak's daughter, however, the events – though almost as portentous – are more lightly handled. On his flight from Ardavān's court, Ardashir (supported as he is by all sorts of earthly and supernatural phenomena, including a spectral ram – a sort of pastoral symbol of his *farr*) is, as usual, in danger of committing all manner of fateful imprudences, including that of delaying for rest and refreshment. Two mysterious young men exhort him to press on, and for the first time, even if in an ironically misguided context, he begins to feel his authority. Turning to Golnār, as though the idea of halting had been hers, he says sharply: "Mark these words!" (*in sokhan yād(e) gir*); and on several occasions throughout his subsequent career (notably after the two events he has done his utmost to thwart, i.e. the birth of his heir, and the marriage of that heir to Mehrak's daughter), he will seize the opportunity to read back at some length, to both fate and his loyal followers, the moral in all that has come to pass so wondrously.

The first encounter of Shāpur with Mehrak's daughter strikes an even more absurd note. In her disguise as a village maiden, she is drawing water from a well. The enamoured Shāpur orders one of his retinue to relieve her, and when the man fails to raise the bucket, shouts: "O half a woman!

Did not a woman wield this pail and wheel and rope, raising no little water from the well, where you are full of toil and call for help?". He then tries his own hand, barely succeeding; and this domesticated version of the drawing of Excalibur enables each young person to recognise the other as royal. Yet the girl, whose royal title is only partial, emerges – humanly speaking – as the victor in the exchange. While Shāpur blusters and puffs over the pail, she sits to one side and smiles; when he covers his embarrassment with an abrupt, brief outburst to the effect that she must be something more than ordinary to cope so easily with the bucket, she counters with an elegant reply, fully delineating his identity and qualities and suggesting that the water will now turn to milk by the grace of his intervention. All in all, she is shown as not only most beautiful, but stronger and wittier than the man she will marry. It is important to realise, however, that the royal figure remains great on an entirely different scale from the purely human; and the use of these gifted, but ultimately less than ideal, human instruments to bring out the essential greatness of royalty (or sometimes of sainthood) is a staple of Persian literature: Golnār (the ex-mistress of a hated rival, and a girl whom some would regard as a forward, bossy hussy), Ardavān's daughter (of part-impure stock, and a would-be poisoner), and Mehrak's daughter (a show-off and descended from a traitor) – all these parallel, in one way or another, that classic female figure in Persian literature, Zolaikhā, Potiphar's wife, who (driven by unlawful passions) demonstrates Joseph's inner greatness by contrast and relief. Yet, at the human level, few poets have missed the formal beauty and the pathetic dignity of the Zolaikhā figure, rather than of Joseph, so that – while he may be virtuous – it is she who, by an only seeming paradox, becomes the symbol of the helpless self-sacrificing mystic. Similarly in the *Shāhnāmeh*.

In the case of Haftvād's daughter, the worm-girl, there is no direct confrontation with the royal line, and here Ferdowsi builds his tensions, and displays his literary skills generally, in a somewhat different manner. Broadly speaking, the effects are achieved by emphasising at the outset, and reminding us throughout, that the girl who rises to ultimately sinister fortune and power is, originally and essentially, a hardworking, natural, kindly person; likewise, what eventually becomes a monstrous and baleful dragon is but a gradually developed projection, again with frequent flashbacks, from a rather cute, helpless, tiny creature. Even the

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girl's father, who soon becomes a boastful layabout and finally a tyrant, is depicted at first as a natural victim of life's handicaps and of other men's greed and callousness.

To make these points somewhat clearer, it is worth quoting the low-key opening passages from this fantastic episode at some length:

"A town there was, cramped, the people numerous, each person's eating by effort only; many girls there were therein, seeking their bread without fulfilment. On one side the mountains came closer, and thither they would all go together, each carrying cotton weighed out by measure and a spindle-case of poplar-wood. At the gates they would gather, striding from the city towards the mountains. Their food they pooled in common, in eating there was neither more nor less. There was no talk there of sleeping or eating, for all their efforts and endeavours were towards their cotton. In the evening homeward they would return, their cotton to a long thread turned. In that city, having nothing but of serene disposition, was a man named Haftvād . . . who had but one beloved daughter. . . ." The action opens one day, at the lunch-break, again most unportentously, or at least with such portents are are realised later to be delicately ironical: ". . . It befell that this girl of good-fortune had seen on the road, and swiftly picked up, an apple cast down from its tree by the wind. (Now hear this marvellous tale!) That fair-cheeked one, into the fruit biting, saw a worm lodged inside; with her finger she lifted it from the apple and gently placed it in her spindle-case. Then, taking up her cotton from the case, she said: 'In the name of the Lord, with no mate or companion, I to-day by the star of the apple-worm will show you a terrible prodigy of spinning!' All the girls took to merriment and laughter, open-cheeked and silvery of teeth. So she spun twice what she would spin in a day, and marked its quantity on the ground. . . ."

So is laid the foundation of the family's enormous wealth and authority throughout the land, until even the up-and-coming Ardashir feels threatened. But events move with anything but unnatural swiftness. The girl constantly increases her intake of cotton and her output of thread, while feeding the worm bigger pieces of apple and other delicacies and moving it to ever more spacious quarters as it grows bigger and more strikingly beautiful. Her parents are pleased, but at a loss. They wonder if she has, as they put it, "become sister to a fairy-being", and Ferdowsi begins a series of skilfully ambivalent references to her: "spellbinding" (por-fosun) as against "industrious" (por honar), and so on. There is as yet no clear suggestion of evil, not even of evil of which the agents themselves are unaware, merely the suspicion of some supernatural or magical intervention. When she tells her parents how matters stand, they are "augmented in brightness" (rowshana'i), a term the poet always uses in auspicious and rational contexts. Yet, in the very next line we meet a bad omen ironically arising from what is taken to be a good one: "Haftvād took this affair for a good sign, giving no further thought in his mind to work, and talking of nothing but the Star of the Worm". Like Mr. Micawber in his Australian days, he becomes a man of substance and a local wiseacre. Eventually the regional governor falls foul of him, still through no fault of his own, thinking to put down and rob this newly-risen one "of evil stock". (In using this latter term, Ferdowsi again preserves a measure of ambiguity, for bad-nezhād could also be rendered merely as "baseborn": the whole series of shifting degrees of perjorative connotation is, of course, fully comprehensible only within the poet's own social and literary ambience.) The outcome is victory for Haftvād, who betakes himself with his mascot the worm, and his great treasure and retinue, to one of those mountain-top fortresses which often figure as the great focal points of Persian literature and Iranian history.

Even at this point the worm continues to be described in terms that present him as a creature of impressive beauty; the daughter, now become the worm's chief keeper and executive agent, is still spoken of as "serene" or "cheerful" (hereafter there is no specific mention of her, though we may presume her destruction together with that of her monstrous pet); and Haftvād himself continues to be spoken of, in terms that are at least neutral and possibly even complimentary, as a "combative captain". Or again, "And such was illustrious Haftvād's fortress that the wind dared not to move around it." Only when hostilities are initiated, by Ardashir, do we begin to hear a different note: for example, one of Haftvād's seven sons is described, in a threefold denunciation, as "impudent, a doer of evil, ill-natured". Even so, after sharp fighting, the upstart Haftvād is still in a position to spare Ardashir's life when he has him at his mercy, albeit he does so insultingly, warning him that he is out of his depth, Shah though he be, in tangling with the domination of the Worm. In his dejection Ardashir is

The moment of truth arrives for the mighty Worm, its drunken staff replaced by deadly foes:
"From its gullet there arose a rattle, at which the pit and the land around did tremble"

counselled, by two more of the mysterious young men we have referred to earlier, as to the true nature of the Worm and the conditions on which alone he can hope to subdue it: "A worm you call him, but within his skin there lives a warlike devil, shedding blood. . . . You, in battle with the Worm and with Haftvād, will not be adequate if you swerve from Justice". Ardashir's undoubted success in this venture may be attributed, by reference to these words, to his *subsequent* record as a just and efficient ruler. But this is to miss a characteristic *leitmotiv* of the *Shāhnāmeh*: we are no longer dealing at this point in normal human motivation, and that type of dramatic tension is suddenly snapped: what the Shah is being told is that he is face to face with the fatal and the supernatural, and the Justice he is to put himself in service to is not so much that of the ministry and the courtroom as the eternal archetype, the ultimate principle of all Being and Doing.

To emphasise this point perhaps, Ardashir says: "So be it! My dealings with them, for good and evil, lie with you", and the two young men are by his side throughout the operation of his stratagem to kill the worm. As if to escape the relatively undramatic, or melodramatic, situation into which he has now come, Ferdowsi makes much less of the foregone dénouement than of the wealth of incident leading up to it: Ardashir's disguising himself and a small band of followers as merchants, their accumulation of goods of all kinds, their departure for the fortress and the arrangements made to keep in communication with the main force of the royal army, the approach – with subservience and blandishments – to Haftvād's retinue, the initiatives to make the Worm's staff drunk and to take over their duties – and so on. When the climax comes, it is brief and has elements of both the comic and the pathetic: "When from the wine-cup their minds were drunken, came the World-Lord with his sponsors, bringing lead and a brazen cauldron; and a fire he lit, all in the white of day. (When it came that worm's feeding-time, its nourishment was of boiling lead.) Towards the pit, Ardashir the hot lead carried, and the worm gently raised its head. They saw his tongue, coloured like a cymbal, thrust out as when he earlier rice would eat. Down, the hero poured the lead, and in the pit the worm lost all its strength. From its gullet there arose a rattle, at which the pit and land around did tremble." That's all there is: in the common phrase, "It's all over bar the shouting" — and, of course, the fighting.

On the present occasion, time does not allow a lengthier development of our theme that Ferdowsi – no matter where his variegated materials came from or how unreliable they may be as history – was a supreme literary and linguistic artist in the use he made of them. We have seen him developing a wide range of characters and throwing these characters into tensions of personality and of role, both with each other and vis-à-vis fate itself. We have seen also how he controls the rate and force of his action so as to ensure the maximum use of dramatic effect. And finally, we have seen how he shades off a melodramatic situation until it becomes firmly integrated in the commonplace; and how he relieves, for those who will accept such relief, solemnity and high drama with the ironical, and sometimes even with the comic. In all of these technical virtuosities, however, the most significant thing is perhaps that he operates, despite his virile athletic style, not as a teller of tales or an epic poet, but as a dramatist. This may well seem a rash statement to make in reference to a culture which – at least until modern times and under Western influence – has never developed a genuine, full-blown drama as such. But I would suggest that we have in the *Shāhnāmeh* all the elements of the dramatic form except the formal structure itself, and that this can be supplied by little more than a typographical rearrangement and a little judicious editorial cutting. By this means some of the most important themes in the work could be set out in such a way as to alternate between dramatically significant speeches by the *personae* and commentary by the poet and/or others. If that should make you think of the Greek drama on the one hand and Bertolt Brecht on the other, that may only go to indicate the timelessness and the topical relevance of the first great figure in the literature of Islamic Persia.

G. M. MEREDITH-OWENS

Persian manuscript illumination and painting

In his paper, illustrated with slides, Professor Meredith-Owens dealt with many aspects of Persian art through the centuries, including textiles, metalwork and woodwork. Slightly abridged, the main section of his manuscript follows.

To appreciate Persian miniature painting to the full, one must accept an entirely new set of conventions at the very outset. It is primarily an art of book-illustration – portraiture as a *genre* came comparatively late – and the aim of the artist first and foremost was to please the eye of his patron. This decorative quality of Persian art is very marked in the elaborate stucco architectural ornaments, the gorgeous tile mosaics of Persian mosques, the exuberant patterns of carpets and the flourishing tropes of calligraphy. Here the penman becomes so absorbed in making the letters graceful and flowing that the legibility of what he has written takes second place. It is the general effect that matters. Each miniature is an exquisite design becoming more and more complex over the centuries but still preserving an unerring sense of colour and line along with an instinct for unity and harmony. The artist, with relatively few exceptions, is not concerned with emotions and individual characteristics. His world is one of romance and enchantment removed from reality – a nocturnal scene is shown exactly as in daylight except that we have the moon and stars or a dark blue sky to indicate that it is night and the beholder may enjoy the beauty of a carpet much better if he is allowed to look down on it from above, ignoring the matter of perspective. The figures are idealized symbols and types which occur over and over again in the miniatures – we are completely de-tached from what is taking place in a battle-scene as in a theatre for the artist spares us the more sinister aspects of warfare. In short, the beauties of Persian painting are all plain to see – the artist has no underlying message. His sole desire is to please us or to illustrate a story to the best of his ability but with what skill and perfection he works within the limitations and formalism of his craft!

Nothing survives of Sasanian painting except for a few remains such as the early 7th-century frescoes of Pi-andjikent in the ancient Sogdiana, some of which show scenes from the exploits of the Persian hero Rustam; and the traces of an isolated painting on a rock at Dukhtar-i Nūshīrvān in Afghanistan. It is still possible, however, to gain some idea as to what illustrated Sasanian manuscripts were like from the fragments of Manich-aean books discovered in Central Asia. The earliest Islamic paintings known are the 9th-century murals found at Sāmarrā and Nīshāpūr which show strong Sasanian influence. Excavations at Lashkar-i Bāzār in Afghanistan revealed a frieze of forty-four members of the Ghaznavid palace guard which dates from the early 11th century. These go back in tradition to the lines of Immortals at Susa and at Persepolis, and they may also be compared with the offering-bearers in Buddhist paintings from Central Asia. A very few other murals are known from the 11th century. The illuminated manuscripts of these early periods are known to us only from references. We read, for example, that Chinese painters were called in by the Samanid ruler Naṣr ibn Ahmad (913–942) to illustrate a Persian version of *Kalīlah wa Dimnah* by the poet Rūdagī. It is not until the time of the Seljuks that we encounter a Persian manuscript with miniatures – a copy of the Persian romance *Varqa va Gulshāh* of ʿAyyūqī at Istanbul, dating from the first half of the 13th century. The miniatures stand very close to those of the Arabic manuscripts of the Iraqi (or Mesopotamian) School in composition and colour, and they also closely resemble the figures on contemporary Persian pottery. These depict scenes from the works of Niẓāmī and Firdausī showing how the work of these famous poets stirred the imagination of artists, and we can conjecture how the many vanished manuscripts were illustrated. Under the Seljuks many finely-illuminated Korans were copied. Their 'bent' Kufic script and restrained, yet elegant ornamentation are very characteristic.

It is not until the Īlkhanid period that we find a distinctly Persian style emerging from the Chinese influence brought by the artists from the Far East employed by the Mongol rulers of Iran, which came to reanimate Persian painting. Instead of the ornamental spirit and linear methods which were in vogue up to this time, we experience a new grace, a feeling for nature and figures of truer proportions which give an impression of depth – a contrast to the stocky and stereotyped figures of the past. The Persian taste for brilliant colour gives way to monochrome greys with subdued tints, background landscapes contain skies with curly clouds, waves are indicated very carefully, animals are now more life-like and trees assume varied shapes, some are even shown in blossom for the first time in a Persian miniature. The earliest dated manuscript of this period is the Persian translation of the *Manāfiʿ al-ḥayawān* by ʿAbd al-Hādī in the Pierpont Morgan Library, New York. This was copied at Marāgheh, prob-

This illustration of the Caliph al-Maʾmūn visiting a Turkish bath was one of many slides used by Professor Meredith-Owens to illustrate his paper on Persian Manuscript Illumination and Painting. Painted by Bihzād. Herat, 1494. British Museum.

G. M. MEREDITH-OWENS

ably at the order of the Īlkhanid ruler of Iran, Ghāzān Khān, at the end of the 13th century. Here one sees the mixture of Chinese and traditional Persian elements. This kind of work is related to the medieval bestiaries and the lion is described among other things as being afraid of ants and white cocks and that eating lion's flesh is good for paralysis. Two portions of a manuscript of the History of the World (*Jāmiʿ al-tavārīkh*) by the scholar-statesman Rashīd al-Dīn are at Edinburgh (dated 1306) and in London (dated 1314). These are all that remain of the productions of the studios set up by Rashīd al-Dīn himself at Tabriz. The illustration showing Sarah in her tent (taken from the section dealing with the History of the Jews) shows the mixed Chinese-Persian style of the period with typical elongated figures. In another scene from the History of India in the same manuscript one sees the sacred Bo-tree of the Buddhists with a naturalistic treatment. The next manuscript to be considered – the Demotte *Shāh-nāmeh* – shows how the Chinese influence has been absorbed into Persian painting and how it enhanced its beauty. The date of these miniatures, now unfortunately dispersed among several collections, has long been a matter of debate and varies between 1330 and 1370. The bier of Iskandar (Alexander the Great) conveys a rare atmosphere of pathos. A number of *Shāhnāmeh* miniatures of small format of *ca.* 1330 shows the Persian element predominating over the Chinese. Some of these are probably from Shiraz. Much finer workmanship is to be seen in a *Kalīlah wa Dimnah* manuscript at Istanbul (1360–74) – the thief is discovered in the bed-chamber and beaten. Here the artist returns to the older tradition of colour. The famous Khvājū Kirmānī

manuscript in the British Museum (dated 1396) has some distinction in that the miniatures are by Junayd, an artist of the Jalairid Court at Baghdad towards the end of the 14th century. The romantic aspect is evident in an illustration which depicts Humāy visiting Humāyūn's castle.

With the overthrow by Tīmūr (Tamerlane) of the various lesser dynasties which arose upon the ruins of the Īlkhanid state in Iran, Persian painting enters a new and brilliant period. A copy of the Ẓafarnāmeh in the Freer Gallery of Art, Washington, is a history of the conquests of Tīmūr by Sharaf al-Dīn Yazdī, dated *ca.* 1434, and shows Tīmūr entering Samarkand in triumph. Under the rule of his descendants, Shiraz and Herat became the main centres for the production of fine illuminated manuscripts. A copy of *Kalīlah wa Dimnah*, now in the Gulistān Library, Tehran, was perhaps made for Iskandar Sulṭān, a grandson of Tīmūr, who was governor of Fārs, then of Isfahan where his ambition led to his downfall in 1414. It is characterized by the very vivid portrayal of the animals and their relation to the landscape, painted in rich and harmonious colours, showing how much progress in manuscript illustration had been made since the Īlkhanids.

A 'pocket library' in the British Museum was certainly copied for Iskandar Sulṭān in 1410–11. This is the rescue of Bīzhan from the pit by Rustam. A *Shānāmeh* in London made for Muḥammad Jūkī, son of Shāh Rukh and grandson of Tīmūr, is a fine example of the art of the book from Herat in *ca.* 1440. Along with a greater feeling for nature than one finds in the other manuscripts of the age made for Timurid princes, there is a new elaboration of detail. The episode of the sleeping Rustam carried away by the demon Akvān forms the subject of

one miniature. Another son of Shāh Rukh, Bāysunqur, ruled for his father at Herat and established a lavish organization for book-production there – a taste for fine books became a tradition of the Timurids until the begining of the 16th century. An illustration of the fire-ordeal of Siyāvush is a good example of the bold style practised under the rule of the Turkoman dynasties in Southern and Western Iran during the second half of the 15th century.

The appearance of Bihzād at Herat shortly before 1480 ushers in a new and splendid era in the history of Persian miniature painting. Although he followed the basic canons of Persian painting, we find a new skill in depicting nature, and his figures bear a strong individualized stamp, adding a new lustre to the masterpieces produced at Herat where by now, after the time of Bāysunqur, the style was becoming rigid and losing its former promise. Two copies of the *Khamseh* of Niẓāmī in the British Museum contain scenes by Bihzād. One of these is a view of a bath-house visited by the Caliph al-Maʾmūn with such intimate details as the towels hanging up to dry, painted in 1494–5. From the other manuscript comes the battle between rival Arab clans with Majnūn looking on helplessly; and Māhān mounted on a horse which turned into a seven-headed dragon surrounded by ghouls in the desert was probably painted by one of Bihzād's circle.

After Shāh Ismāʿīl, the founder of the Safavid line, had defeated the Uzbeks and occupied Herat in 1510; Bihzād followed him to his new capital at Tabriz. His influence still dominated miniature painting for some time; although he was growing old and painted little, his style was taken up by younger artists, bringing

*Another slide shown by Professor Meredith-Owens: lion and lioness
copied at Marāgheh ca. 1298. Pierpont Morgan Library, New York.*

Persian painting to the peak of technical perfection, but by this time some of the vigour of Timurid miniatures had gone for ever.

A battle-scene attributed to Maḥmūd-i Muṣavvir in the Freer Gallery of Art dated *ca.* 1530 shows how over-elaborated and crowded miniatures had become. The same feature can be observed in another detached illustration of *ca.* 1584 at Philadelphia. In it Khusrau sees Shīrīn bathing – her horse Shabdīz whinnying a greeting to Khusrau's mount. The rocks are characteristic of this manuscript with their curious appearance of lightness and floating in the air. This picture is a production of the School of Shiraz which still retained something of its former artistic importance under the new dynasty. A more spontaneous touch is to be seen in an illustration from a copy of the Wonders of Creation (*ʿAjāʾib al-amkhlū-*

qāt) of Qazvīnī dated 1545 in the Chester Beatty Library, Dublin. With an eye for the marvellous which matches the semi-legendary character of much of this work, the artist in simple colours portrays tree-dwellers, a buffalo and a fanciful rhinoceros.

With the removal of the capital of Iran to Isfahan in 1598 by Shāh ʿAbbās the Great, the arts flourished under royal patronage; but in the separate drawings and paintings which now were popular, the style becomes languorous, decadent and erotic (e.g. the love-scene painted by Muḥammad Yūsuf al-Ḥusaynī *ca.* 1630 in the Pierpont Morgan Library and the young prince in the British Museum which dates from *ca.* 1590). From the middle of the 17th century there was a decline in the art of book illustration which was frequently left to less talented artists who were unable to do more than repeat the same old

scenes and conventions over and over again. European influence altered the character of Persian painting but did not give new life to remove the stagnation which set in. Nevertheless the earlier part of the 17th century produced much graceful yet mannered work in the shape of studies of youths and maidens by such artists as Riẓā-i ʿAbbāsī and Muʿīn with their mastery of line. One of the most famous paintings by Riẓā-i ʿAbbāsī is that of the lovers in the Metropolitan Museum, datad 1629. Only very few illustrated manuscripts of the 18th century have any real artistic merit; and the best work of the 19th century when the Qājārs reigned over Iran is in the field of portraiture. The same tendency towards increasing elaboration and complexity which has been mentioned in connection with miniatures is found in manuscript illumination.

31

LAWRENCE F. JONES

Campus Centre goes campus-wide

It was to be the answer to an urgent problem, the need for a "communications device" to meet the disparate wants of students on a vast campus – a $4 million campus centre of meeting rooms and offices, sauna baths and swimming pool, dining areas and shops.

Such was the plan for the Campus Centre unveiled to a student assembly in the fall of 1966 by Tom Faulkner, president of the Students' Administrative Council, and Gerald McMaster, chairman of the SAC Campus Centre committee.

In line with the thinking of the period, the plans drawn by John Andrews had all student activities and organizations under a single roof. Then, after Mr. Andrews had made some revisions, funding problems and municipal building restrictions led SAC to postpone further action.

The project remained dormant for the better part of five years. During that time SAC became aware of changing patterns in student life and the emergence of new ideas as to what a campus centre should contain. In May 1971 the Council turned for help to Professor Peter Prangnell, chairman of architecture in the Faculty of Architecture, Urban and Regional Planning, and Landscape Architecture. He was asked to make suggestions and prepare recommendations regarding the campus centre and was given nothing more as reference. As stated in the report of those who carried out the study: "The department accepted the commission as a very appropriate opportunity to test in reality some of its theoretical and pedagogical premises." The report then outlined a concept radically different from ideas that had won favour in the past.

Professor Prangnell appointed Douglas Engel, a lecturer in his department, to select and direct a team

of students of architecture. They worked full-time on the project through the late spring and all summer, with help from voluntary and part-time workers. All first year students, the Engel team included Paul Cravit, Kent Harvey, Bruce Kuwabara, Peter Ortved and David Thom.

Their recommendations were direct and to the point:

"There should be *no* campus centre, either on the St. George Campus or on the Scarborough or Erindale campuses.

"The concept of a building or a number of buildings which would cater to student life on campus should henceforth be considered defunct.

"All of the efforts which would have been aimed at getting a campus centre or campus centres erected should be orientated instead at making the campuses pleasurable, gratifying, comfortable and instructive environments."

The original plans had been drawn after extensive research in the winter and spring of 1965–66 and the circulation of a questionnaire among 17,000 students in November of 1966. Changes were the result of comments students made concerning their primary needs. The chairman of the SAC Campus Centre committee was a fifth year student of architecture and John Andrews was an architect of international reputation. Why did the Engel planners set all this aside?

Douglas Engel explained, from the beginning:

The team considered one basic question: why does the University of Toronto need a campus centre?

Many people, they were told, had doubts that a campus centre, in the sense of a building, "could crystalize life on campus and create a corporate image". There was a lack of definition in evaluation of the campus.

"The lack of corporate vision", the report said, "would undoubtedly make the selection of a locus on which leisure and cultural activities could converge a dubious if not impossible task, especially in view of the size and diversity of the campus."

Before coming to this conclusion, 20 architecture students were assigned to document student life. Each of them followed another student throughout the 24 hours of a day. Each subject was from a different college or a different discipline. They lived under different conditions: residence, parental home, married quarters, rooming house, apartment house. Their lives were charted from the moment they woke until they went to bed, when they ate, and when they travelled to class, how and where they shopped, how they spent their leisure hours, what they did on campus.

Six hundred photographs were taken. Nine students studied and analysed the pictures, in an effort to distinguish good and bad qualities of student life that might warrant further study.

"Our purpose in the assignment", instructions for this human inventory stated, "is to affirm that life itself is at the centre of every project. This assignment is not intended to equate 20 people to the 27,000 or so who make up the University of Toronto. Rather, it is simply to take the risk that 20 people may show us something that we do not already perceive. One person *might* do it – 20 is for us in these circumstances of time a realistic figure."

From this survey, Mr. Engel says, emerged confirmation of the fact that students relate to their environment in a diversity of ways; so diverse, indeed, that his team soon agreed that in a university of such a size –

*Lecturer Douglas Engel was mentor of the team of Architecture students
who conceived the idea of "the campus as a campus centre"*

LAWRENCE F. JONES

he calls it "a multi-focus organism" — it would be impossible to contain all of the manifold interests in one building.

The young architects-to-be wanted to find out as specifically as possible just what assets the University had, beyond the obvious ones. With the co-operation of the Physical Plant Department, they made a floor by floor analysis of every building. They wanted to find out what facilities each building had; such things, for example, as beverage vending machines, lounges, washrooms, accessible telephones, even games. They tried to ascertain the relationships of the interior of buildings to the exterior.

"We got a rather sharp, an X-ray, view of the anatomy of the campus", says Mr. Engel. The team's report states:

"We have found on the campus a wealth of fascinating equipment, services and activities, but most of this wealth is in dark basements, out-of-the-way above-ground locations, or behind unfenestrated walls."

The students turned up a couple of features that surprised them: a swimming pool none of them knew about (in the Lillian Massey Treble Building, home of the Faculty of Food Sciences, a pool drained of water and unused for its original purpose for years), and a Rolls Royce engine that at one time was used in an engineering experiment.

In their survey, the students made for Physical Plant an inventory of street "furniture" — benches, trash containers, mail boxes, outdoor telephones, street lights.

On the strength of the information acquired, the students, having scrapped all thought of a campus centre building, proposed to make a test of their new concept on Tower Road, the street leading from Soldiers' Tower

to Hoskin Avenue. They prepared working drawings and were at the point where tenders could be called. Then, says Mr. Engel, the Property Committee of the Board of Governors vetoed the idea. One SAC executive officer says he understands the Board did not want any permanent changes on Tower Road because of the possibility of the need for the space for an extension of men's athletic facilities.

This minor setback did not deter Mr. Engel's team. They turned their attention to the southwest campus "as a matter of urgency."

"The St. George Campus west of St. George Street is the most sterile area and the most urgently in need of intervention", he says. The team's report goes further:

"It is the sorest spot in the University. The failing of this area is all the more serious because the buildings in it (except for New College) were all built independent of any college and to be used by all students. In a sense, then, they are the University's community buildings. Our foremost proposal, therefore, is a conversion of and rehabilitation of the southwest campus.

"We have approached this in the spirit of a reforestation project. Recognizing that what is there has declined or was insufficient from the start, we have replanted both natural and man-made elements in an attempt to generate a healthy, fertile terrain. We hope this will become a model for the rest of the campus."

St. George Street, the young planners agree, is "the University's most serious problem". They tried "in simple and realistic ways to reverse the character of the street and turn it from the problem into the solution. Our proposal is to remake it in the image of a boulevard unique in the

city", a thoroughfare alive with activity far beyond the normal 9 to 5 hours, no longer strictly an institutional habitat.

They proposed a reduction in and slowing down of north-south vehicular traffic by providing only two rather than the present four lanes (the group called the 1966 suggestions for putting motor traffic below grade or for stopping all vehicular traffic unrealistic); widening of the sidewalks "to accept more easily a wide range of activities and an accumulation of furniture"; providing angle parking that would compensate to some extent for the parking spaces west of St. George Street that would vanish because of other suggested improvements.

Then the team turned its attention to the area west from St. George to Spadina Avenue. There would be important linkages from St. George to Huron between and through the buildings from Harbord to Russell Streets.

There would be a series of bridges connecting the Ramsay Wright Laboratories, Sidney Smith Hall, Lash Miller Laboratories, McLennan Laboratories, and the School of Nursing. At ground level, these connecting links might house small shops, a bank, a drug store, and a restaurant. A "winter garden", for year-round use, was proposed for the promenade on the east side of Sidney Smith Hall. (This area was a pub during Orientation Week in September 1971.)

Inside Sidney Smith Hall, the two-storey entrance foyer (popularly known among students as the Free Speech area) would be sub-divided in a way that would provide for more efficient use of the space for meetings. The promenade on the west side of Sidney Smith, facing Wetmore Hall of New College, would be the Sum-

mer Terrace, a plaza of "vines hanging from trellises, tables, easy chairs and fish ponds."

The structural connections between Sidney Smith and its neighbouring buildings to the north and south "would be a kind of continuous indoor public street. It would be the winter-time equivalent of the St. George Boulevard and would lend new meaning to the rooms and common student facilities along its route."

The Huron and Willcocks intersection would be Huron Square, exterior space for meetings and other public events, so designed that vehicular cross-traffic would be maintained. The Summer Terrace and the adjoining Huron Square would provide a natural amphitheatre, a forum rather than a park, although the area would be landscaped.

Also proposed is a covered arcade starting at the bridge linking Lash Miller and the McLennan lecture wing. This would be carried west to Spadina Avenue behind the buildings facing Willcocks and Bancroft Streets. Lining the arcade, the team suggests, there might be a groceteria, snack bars, a laundromat, vending machines, offices, a studio and boutiques.

The planners also have ideas for improvements to the campus east of St. George Street. They suggest that the lane between the Bookroom and Sir Daniel Wilson Residence be covered with canvas on a simple pipe framework from which would be hung lights and pots of flowers to make the route more inviting. There is a rose garden beside the Women's Union: it is proposed that parts of the existing passage be roofed with glass to create an outdoor café.

Noting that the east side of St. George Street from Hoskin Avenue to Bloor Street is the site for a future graduate student complex, the plan-

ners "did not want to do anything here which would limit future designs in a major way. However, we feel that the most important thing now is to establish and reinforce the pedestrian ways across the block (to Devonshire Place at St. Hilda's College) so that they would be maintained in the future. We also feel strongly about the existing houses, which are the last proud remnants of a St. George Street that was. They are still thoroughly useable and should not be torn down."

Mr. Engel and his colleagues see on the southwest campus a "commons" just as they now see a "commons" on the east campus. That commons, they say, has given the University its most agreeable aspect. They mention Hart House Hill, the back campus, and Philosophers' Walk, much of which follows the course of Taddle Creek (long gone underground). They quote the Royal Ordinances for the Laying Out of Towns in the New World, issued by King Philip II of Spain in 1573:

"A common shall be assigned to the town, of such size that, although the town continues to grow, there may always be sufficient space for the people to go for recreation."

What would "the campus as the campus centre" cost? "Our assignment didn't call for cost estimates," says Mr. Engel.

The plan is in the hands of SAC and of an advisory board SAC established when the Department of Architecture accepted the assignment. The board consists of Robert Spencer, president, and Philip Dack, vice-president, of SAC; three other students — Andrew Denver, Peter Moran and Wayne Richardson; Professor Bernard Etkin; Professor Donald F. Forster, Acting Executive Vice-President, Academic, and William B.

Harris, Chairman of the Board of Governors.

Mr. Engels hopes for approval in principle by the Board of Governors. He looks, too, for a clear definition of any points which may become issues between the University and the City of Toronto or Metropolitan Toronto. He is worried that the University and the municipal authorities may have polarized their positions. For example, he says, some in the University would close St. George Street to traffic, while the civic authorities would keep it as it is. "But our position is flexible – we are prepared to modify our plans", says Mr. Engel.

Phil Dack looks for "feedback" from students and hopes that some body or group will be formed to assume the responsibility for carrying out the recommendations over the next five years. And that's where "the campus as the campus centre" stands at the beginning of another year.

See overleaf for a bird's eye view of the southwest campus as the team from Architecture envisions it.
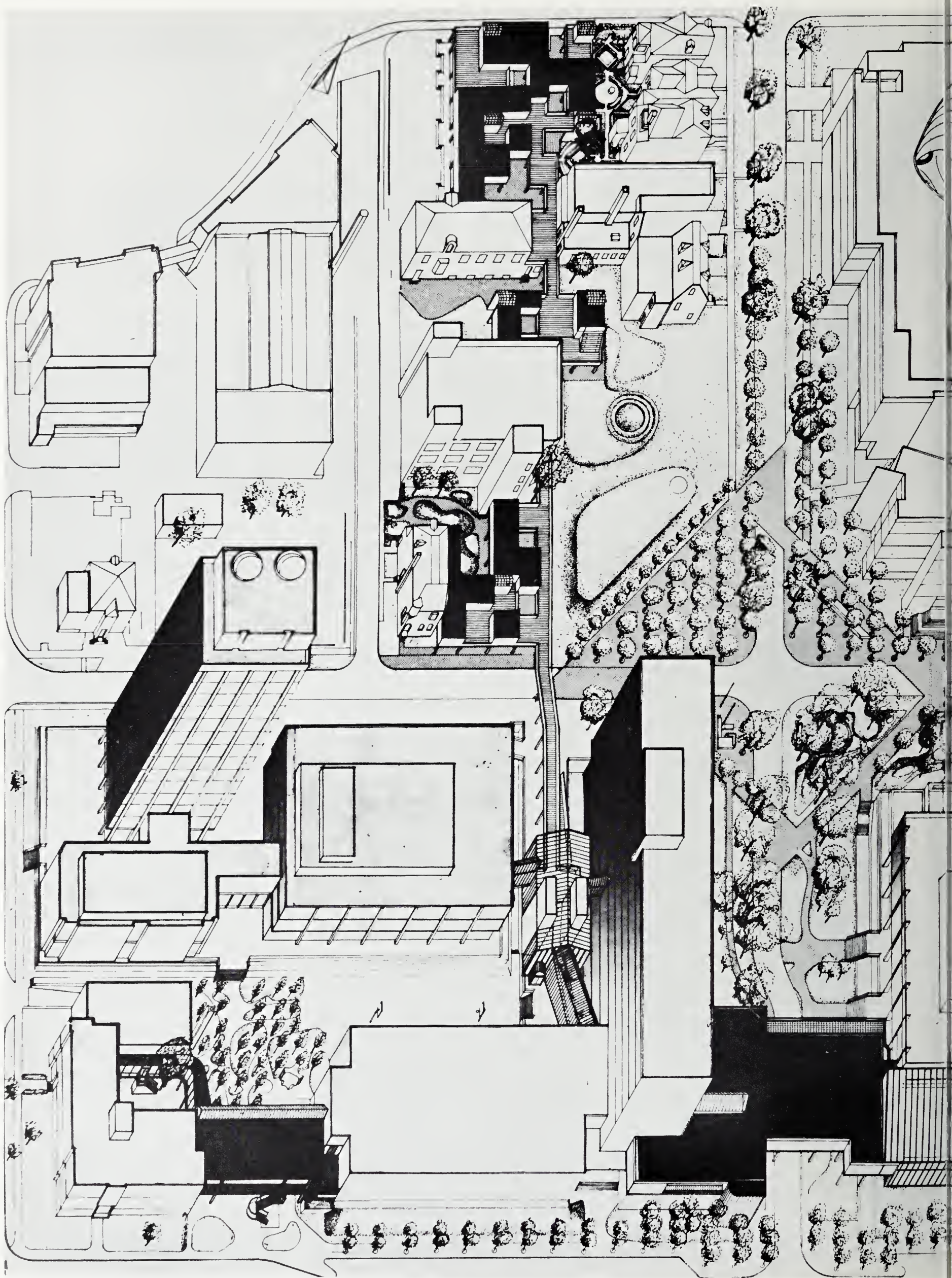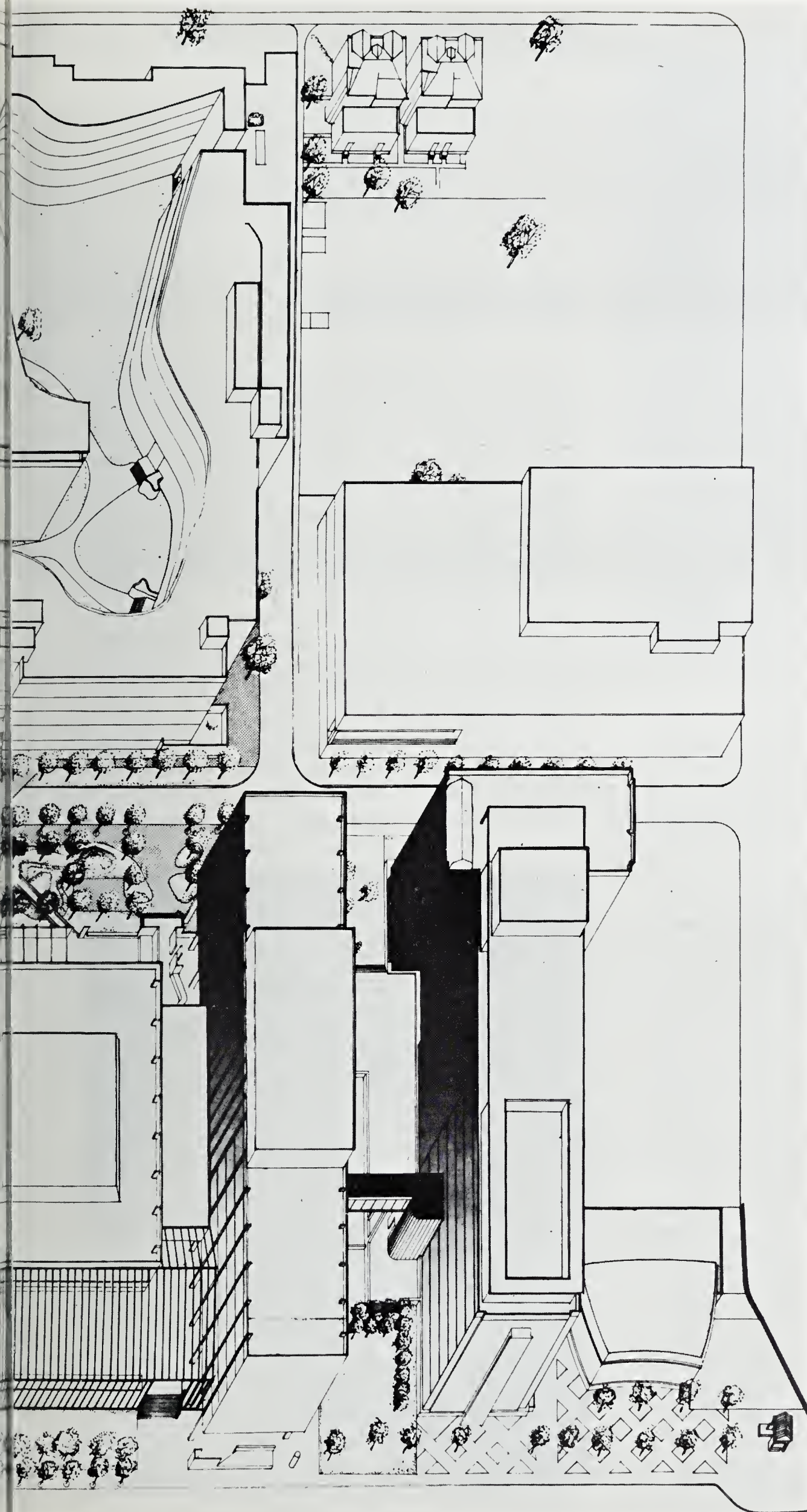
Some idea of the concept of a "healthy, fertile terrain" that a team of Architecture students has developed for the southwest campus may be gained from this drawing. The boundaries are St. George Street (bottom of page), Spadina Avenue (top), Russell Street – the first north of College – (at the far left) and Harbord at the right. Running from top to bottom in about the centre of the sketch is Willcocks Street, the east-west axis. Note how the plan calls for a broad bridge connecting the Lash Miller Laboratories with Sidney Smith Hall at St. George Street. At the Huron Street intersection, Willcocks would blossom into diamond-shaped "Huron Square", reaching to the walls of New College on the north-west and linking up with a "summer terrace" for Sidney Smith Hall. A number of other elements mentioned in the article starting on page 32 are also indicated.

FRANCESS G. HALPENNY

Volumes of Ancestors

Do you know the story of Andrew Mercer, after whom the Ontario reformatory for women was named?

Are you aware that a Victoria Cross was once given for bravery exhibited in Canada, not on a field of battle?

What family estates are remembered in the Toronto street names Rusholme and Dovercourt?

Who was the man whose face appears on the "Connell stamp," a collector's special prize?

Is the name "Old Squaretoes" for a mayor of Toronto familiar to you?

Who was accused of the killing of George Brown of the *Globe*?

Did the *Caroline* really go over Niagara Falls?

The answers to these puzzles are all contained in volume X of the *Dictionary of Canadian Biography/Dictionnaire biographique du Canada*, due to appear early this spring. Behind each puzzle is an unusual story, sometimes comic, sometimes tragic. Indeed the 574 biographies that appear in the volume form a collection that is alive with movement and colour and that constitutes an extensive rebuke to those who complain that Canadian history is dull.

Volume X of the DCB/DBC presents lives of noteworthy persons who died between 1871 and 1880. A decade may seem a short and mystifying span of time to choose, but of course the active periods of the careers recorded in the volume may lie anywhere between the War of 1812 and the extension of Confederation to include Prince Edward Island and British Columbia, and may be related to the rebellions of 1837–38 or the troubled debates of the United Canadas after 1841 or the union of British North America against the background of the American Civil War. The volume is not a repository of the deeds of politicians, how- ever, even though George Brown, George-Étienne Cartier, Louis-Joseph Papineau, Joseph Howe, and James Douglas are leading figures. In it are to be found men engaged in the east coast fisheries, the lumber trade of New Brunswick and Quebec, shipping on the St. Lawrence and railroads local and intercolonial, farmers and merchants in central Canada, fur traders in the west, gold miners in British Columbia, ex- plorers seeking the Northwest Passage, artists sketching prairie Indians or habitants of Quebec, writers of popular novels, of poetry, and of learned treatises, bishops and itinerant missionaries, heads of educational systems and of colleges, scientists and musicians, British governors serving in Canada on one of their imperial postings, newspapermen,

ship captains, and hotel-keepers. The range is as wide as the variety of people who lived in the 19th century in what is now Canada.

Volume X is the third to be published by the DCB/DBC. It was preceded by volume I in 1966 and volume II in 1969. These volumes, with 1172 biographies in total, present the early biographical story of Canada, from the Norse voyages through the explorations of Cabot, Cartier, and Champlain, and on to the development of New France under Talon and Laval. The death dates of their figures run from 1000 to 1740. At present, volume III is in preparation; its terminal date is 1770, and its leading figures will be Wolfe and Montcalm. Publication will take place in 1973.

What may seem at first a strange alternation between the 18th and 19th centuries, and confusing gaps in numbering of volumes actually available for shelving, is possible be- cause of the chronological arrangement of the DCB/DBC project as a whole. That arrangement is actually a decided

Joseph Howe, 1804–73

advantage to both editors and readers. It means that work can proceed to publication on several fronts simultaneously. There is no need to wait until some twenty volumes for the letters A to Z have been compiled. Volumes I, II, X are useful immediately in their own right.

The DCB/DBC is obviously an immense editorial undertaking. Its published volumes have been commended for their readability and called "a storybook about heroes and villains and all sorts and conditions of ordinary men and women." It is nevertheless primarily an impressive work of reference, based on much original research, by over 400 contributors to date, drawn from Canada and abroad. It was never planned to recover even all its printing costs from sales, let alone the costs of making the biographies available in English and French editions of scrupulous translation, or of paying contributors and constituents, or of maintaining its editorial staff in Toronto and Quebec City.

It would indeed never have been begun had it not been for the public spirit, interest in his country's past, and shrewd yet imaginative planning of a Toronto businessman, James Nicholson (1861–1952). A native of Liverpool, he came to Canada in his youth and built up with J. W. Brock a flourishing Dominion-wide business, best known for one product, "Brock's Bird Seed." Mr. Nicholson was an active member of St. Paul's Church and several synods of the Church of England, of the St. George's Society and the Granite Club, a leading citizen of Toronto, and a great admirer of British institutions. But most important to him of his avocations was probably his love of reading, especially in history, and his library was well stocked. It included a set of the British *Dictionary of National Biography*, the great master on which many subsequent works have been modelled, and Mr. Nicholson carefully recorded in the margins of its pages the dates on which he read its entries. He had certainly studied the career of George Smith, a successful Victorian English businessman, who had in 1860 founded the *Cornhill Magazine* which Thackeray edited and who in the 1880s established the *DNB*. Taking the *DNB* explicitly as an example, Mr. Nicholson put into his will a succession of remarkable clauses that set aside the income from the residue and bulk of his estate for the creation of a "Dictionary of Canadian Biography," to be administered through the University of Toronto. The clarity of his conception of the project and the high standards he expected of it are evident in his provisions.

George-Étienne Cartier, 1814–73

"I would wish them to have in mind:

"(a) The production of a complete Dictionary of National Biography which should supply full, accurate and concise biographies of all noteworthy inhabitants of the Dominion of Canada (exclusive of living persons), from the earliest historical period to the time of publication.

"(b) That contributors shall seek information from first class authorities, including unpublished papers and records, and that they should append to each article a full list of the sources from whence their information was derived.

"(c) That the biographies to be included shall be those whose lives are noteworthy from all points of view, and that the term 'National' shall not be held to exclude the earlier settlers in British North America, or those born in Canada who may have gained distinction in foreign lands, nor shall it exclude persons of foreign birth who have achieved eminence in Canada.

"(d) That the object shall be not only to supply an acknowledged want in Canadian literature, but that it should compete with or even surpass works of a similar character produced elsewhere."

Execution of the project was entrusted by the University to the University of Toronto Press, which had the necessary editorial and publishing experience with scholarly writing, and the DCB was officially founded in 1959 on a fitting date, July 1. Professor George W. Brown was its first General Editor. In 1961 Université Laval undertook to sponsor a French edition, and thus the DCB/DBC was established as a bilingual, bicultural enterprise, its two offices sharing equally in the preparation of volumes. Generous grants have been received at various times also from the Canada Council and from

FRANCESS G. HALPENNY

the Centennial Commission. Without all this assistance the DCB/DBC, whose volumes are fulfilling a long-felt hope of Canadian readers and scholars, could never have come into being.

In Professor Brown's years as General Editor the groundwork was laid on which the DCB/DBC has since built. That volumes should be arranged chronologically was an early, and influential, decision. It was taken originally for the practical reason that a period for a volume could be selected and worked on intensively, and then the results could be published independent of other volumes; later, revision could take place volume by volume as need arose. But this decision was found to have significant editorial consequences as well. Within any volume, many of the subjects of biographies are related, and by means of the cross-references between names a web of events and themes is built up which a reader can pursue as inclination moves him. A volume is, in fact, not just a collection of discrete biographies but a biography of an age and a contribution to the social history of Canada. The DCB/DRC is thus creating a continuous tapestry of people as they react over the years to the physical country in which they live and express themselves in a variety of action, thought, and aspiration.

Questions about the mechanics of choosing the people to be included in a volume, of finding writers to provide texts, of working in two languages are the most frequent when the operation of the DCB/DBC is being described to an audience. Its methods have developed under the guidance of its general editors, the second (1965–1969) being Dr. David L. Hayne (Department of French, University College) and the present one Dr. Francess G. Halpenny, and of its Directeur adjoint, Dr. André Vachon; they are the practical responsibility of the office in Toronto, with Mrs. Mary McD. Maude at its head, and the bureau in Quebec, under M. Gaston Tisdel. M. Marc La Terreur has been volume editor of volume X. Communication between the two offices by memorandum, telephone, and visit is constant, and files are maintained in duplicate; the General Editor spends part of each month in Quebec. Each office is responsible for the preparation of the biographies of specific groups of people to be included in a volume, and for the production of the edition in its own language (translation into English of biographies written in French has been done by Professor John Flinn of University College and Professor John S. Wood of Victoria College). The two

équipes are a working team, engaged in a bicultural task that proceeds in effective harmony.

Each volume of the DCB/DBC passes through four stages of work over four years. In the first stage, the staff of the Toronto and Quebec offices carries on research in the period of the new volume, their aim being to collect names of persons dying within the designated years who should be considered for inclusion and also basic information about them to fill out the permanent name files maintained by the DCB/DBC. On this information can be based decisions about the appropriate lengths of biographies and the general coverage to be expected in them. After some months a large number of specialists are sent inclusive lists for various groups of people (e.g. Indians, merchants of New France, clergy in Ontario, politicians and public figures of Nova Scotia, explorers of the west) and their comments on these lists are assimilated into the files. Refinement and shortening of the group lists for the volume proceed until a master list is finally achieved, showing a choice of names and of categories of length that will produce a volume of the requisite scope and size.

In the second stage of preparation, the contributors who have accepted assignments prepare their biographies, and the texts they provide are read in the offices of the DCB/DBC. The method of grouping candidates for inclusion into vari-

Shah-wun-dais or John Sunday, who died in 1875, was a chieftain of the Missisauga tribe who became a missionary for the Methodists among Indians of central Canada
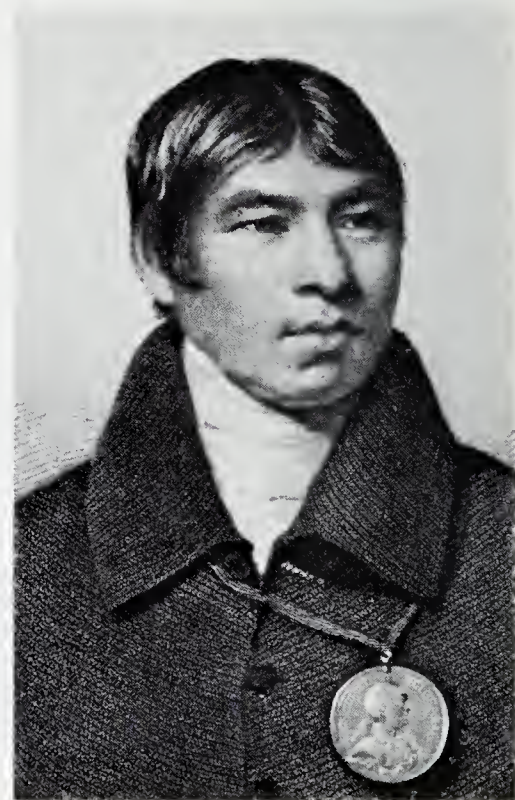
ous lists is continued during the process of manuscript editing. Each editor has supervision of a certain number of groups (roughly about one-quarter of the biographies in the volume), and the deadlines for receipt of texts are, as far as possible, arranged over some 23 months to try to bring in the biographies of each group at approximately the same time and, as a group, either earlier or later than other groups. The method makes it possible for each editor to become increasingly familiar with the groups of people assigned to him and with the historical problems, relationships, events, and aspects of social history shared by biographies within each group. The latter advantage is especially important since the chronological arrangement of the DCB/ DBC volumes means that the biographies in any one of them are interrelated and must be viewed as parts of a whole. Thus some 600 biographies are marshalled towards the day when production begins in the printing plant, a date fixed well ahead.

The editorial preparation of the manuscript of a biography is, as would be expected, concerned mainly with a review of the text by the editors of the DCB/DBC, and by outside readers, in the interests of clarity, accuracy, objectivity, and readability. Each biography must also be checked for length in order to make certain that it fits the scheme of the volume and that the words allotted are used thriftily. Questions about the information given or any details that might be added or about presentation may occur to editorial readers and are set forth in a memorandum for the author's attention. The preparation of a volume of the DCB/DBC involves, however, more than these familiar editorial activities. Reference slips are made out by the editors for each biography, bearing the names of persons and institutions, place names, and bibliographical items, and all these entries are checked for accuracy and for consistency with established DCB/DBC style. The slips for persons are later the basis for the index to the volume. A biography must also be checked against other related biographies so that there will be no contradiction of fact although there may be differences of interpretation.

By the time a good proportion of the edited biographies for the volume has been sent to authors, and returned, the third stage of preparation is well under way. This is translation into French or English, which, in effect, means the creation finally of two manuscripts, one for each edition of the volume. Translation at a high level of fidelity and style

is required, and all translations are reviewed against the original texts. One of the great challenges of translation for the DCB/DBC is the discovery of acceptable equivalents in French and in English for a wide range of institutions, companies, occupations, offices, and ranks. In the years of the union, 1841–1867, which are important for volume X, for instance, most government bodies in the Canadas had two official names, but decisions for a host of other terms must be made. The search will be just as necessary in all volumes, and the *Dictionary/Dictionnaire* is indirectly becoming a guide to terminology for authors writing in English on political or religious or cultural questions in Quebec or authors writing in French on political or religious or cultural questions in the society of, say, Newfoundland or Prince Edward Island or British Columbia.

By the time the work of translation is done, the general bibliography for the volume is in its last stages. The thousands of names on index slips receive a final collation during the first stages of typesetting and proofs. The actual production of the two bound books occupies the fourth stage of preparation and requires about nine months. In the last of those months, taken up by printing and binding, the editors will already have turned to the next volume in the chronological progression.

Each volume built by this long and careful process presents the stuff of Canada. Kildare Dobbs said in a review of volume I that "the DCB, is, after all, a cause for national rejoicing. Every nation-state has to equip itself with a basic outfit of stage props: a national myth, a flag, an anthem, a grievance, etc. Some of these things we already have – the flag, for instance. Others, like the grievance, we are doing our best to acquire. What the DCB gives us is ancestors – a portrait gallery in the spirit of *Ecclesiasticus*: 'Let us now praise famous men and our fathers that begat us.' "

Our ancestors appear unmistakably as people of a northern land, and their stories can give to readers a haunting memory of what the Atlantic seas, the long inland riverways, the expanses of prairie and Arctic, and the difficult mountain passes have meant to those who dwelt among them and met their constant challenge. Historian Alan Wilson has said "If Canadians generally grope still toward a more conscious sense of their identity, perhaps it is because historians have not told them in individual and concrete terms who they have been." In the pages of the DCB/ DBC the makers of Canada acquire this individuality.

BERNARD ETKIN

An era of soul-searching for science and technology
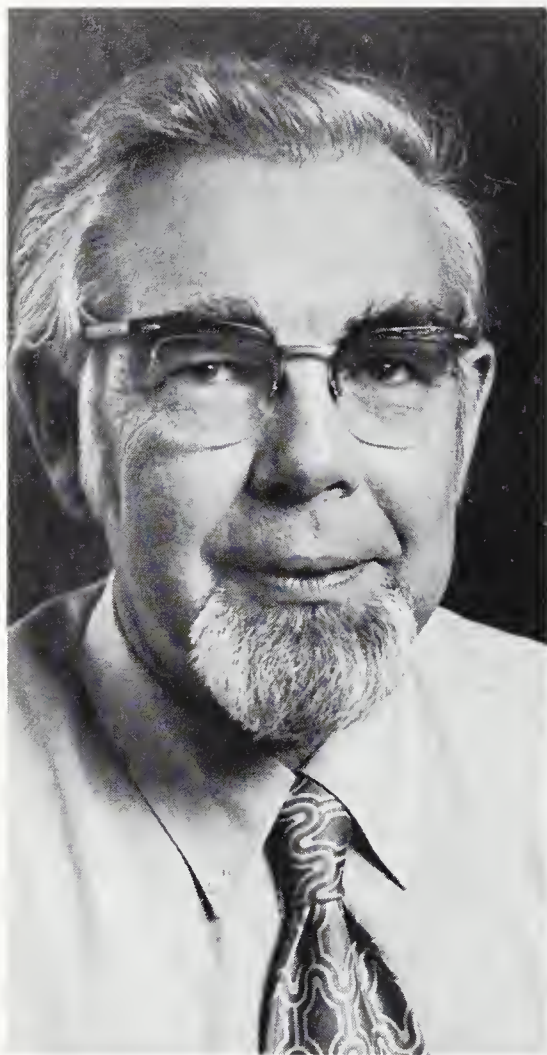
Dr. Bernard Etkin is Chairman of the Division of Engineering Science, Faculty of Applied Science and Engineering, and Professor in the Institute of Aerospace Studies. He was one of four professors elected by the faculty to serve on the Commission on University Government and is one of seven elected by the faculty to serve on President's Council.

"It is given to only a tiny fraction of Canadians to be of Olympian or internatural stature in science and technology: one of them is Professor Bernard Etkin of the University of Toronto." Thus did President Davidson Dunton, speaking for his senate, present Professor Etkin to the Chancellor of Carleton University as a candidate for Carleton's rarely given degree of Doctor of Engineering, *honoris causa.*

"He has brought renown to his country and to his university as well as to himself for his work in the aerospace field," the citation continued. "He has penetrated many secrets of flight within the earth's atmosphere as well as beyond it; and his articles and books are known around the world and read in other languages as well as in English. But his distinction does not come just from his research and his publications. He is known to generations of students as a great teacher, as a man who has the invaluable capacity to inspire others to investigate deeply and thoroughly for themselves. He knows a great deal about wing theory, shock waves, satellites and re-entry vehicles – he also has a great understanding of people. . . ."

After the degree had been conferred, Professor Etkin addressed himself directly to the graduating classes awaiting their own degree-giving ceremony. This is what he said:

Most of you who are receiving degrees this morning are, I understand, in Engineering and Science. I suspect that the concern for the future that is shared by all new graduates is even more intense among you, since the fields of human endeavour that you represent have recently come under close and sometimes hostile public scrutiny. The criticisms have been levelled not only at science and technology in the abstract, but at the men

and women who are their practitioners. We have been accused of indifference to the social consequences of our work, of being morally and ethically culpable for much that is wrong with the world.

Now engineers in this country do subscribe to an ethical code. They commit themselves to a high standard of integrity in the performance of their professional work, and in their relations to one another. As young men and women who want to enter science and engineering as practising professionals at this critical point in history, you must certainly subscribe to such an obligation, but may well ask whether it is not too narrow in its content. Will you not have to show more sensitivity, and a more broadly-based concern than did the generations that preceded you for the impact of technology on your world? Actually, engineers have always recognized that their profession should serve society. In addressing a class of engineering students in 1927 William Barclay Parsons said "It is not the technical excellence of an engineering design which alone determines its merit, but rather, the completeness with which it meets the economic and social needs of its day." I know of no definition of the profession of engineering that does not embody the concept that engineering exists primarily to serve human needs. In that sense it is a 'social science'. I hasten to add that pure science, the search for knowledge, needs no such justification. Like the arts, it is justified for its intrinsic worth and by its own nature as a human activity.

Let me examine a little more closely the present plight of applied science and technology. In doing so I must unavoidably play some familiar, even stale, tunes. For this I hope you will forgive me. Gathered as we are in

Three systems — food, energy and communication — illustrate how twentieth century man is committed to what some eminent critics have described as "monsters running out of control"

our beautiful capital city, it seems appropriate that I should begin my account of the assault on technology with a quotation from the Prime Minister. Mr. Trudeau recently said in Vancouver that Canada "must harness the monsters of technology in order to save its identity as a human place." This view of technology is one that is widely held and widely repeated around the world today. Science and technology are seen by many as monsters running wildly out of control, as a source not of the great benefits which we associated with them in the past, but on the contrary of many of our social ills. The attacks on science and technology are made by persons both eminent and ordinary, both well-informed and ill-informed. They are to be found in the editorials of the daily press, and in the scientific literature too, for scientists and engineers are themselves subjecting their activities to soul-searching self-appraisal. It takes no great effort to discover the reasons for these attitudes, for even the most cursory examination of contemporary society will reveal that there are major technological components in many of our serious problems.

That this would be so is virtually ensured by the intricate technological nature of society itself. In every facet of our daily lives, we call upon and depend upon complex technological systems of acquisition and supply for the satisfaction of our needs; the *food-supply subsystem* that extends from the farmer and the fisherman through the processing factories and the refrigerated transport to the supermarket or the milkman at the door; the *energy subsystem* that begins with coal, oil, gas, uranium, running water, and extends through pipelines, tankers, refineries, and generating stations to the gasoline pump at the corner, the

oil burner in your furnace, the light bulb over your desk; the *communication subsystem* that embodies the vast and incredibly complex electronic networks of telephone lines, switchgear, microwave relays, and communication satellites, that brings the whole world into your living room.

These three systems, food, energy and communications illustrate the situation well enough — 20th century man is committed to his technology. There is no going backwards now. He must live with it.

If we could imagine the whole set of these complex technological systems described to a modern systems analyst who had no prior experience with it, I daresay he would declare it to be inoperable on the grounds that the failure probability would be too high. Indeed the system

is easily thrown into disarray — as witness the blackout of a third of a continent following the failure of an obscure electrical relay, or the transportation foul-up caused by a strike of air traffic controllers. Why does the system work as well as it does? Why don't catastrophic breakdowns occur more often than they do? The answer I suggest lies in the nature of man himself — his ingenuity, his adaptability, his flexibility, his toughness, his capacity to improvise and get around or over obstacles. Note the safe return of Apollo 13 as a case in point. Other dramatic illustrations are provided by war. In World War II, and currently in the Indochina war, factories, transportation systems, and power systems have been kept operational despite colossal damage by aerial bombardment.

It began with John Galbraith, who was appointed our first Professor of Engineering in 1878 and first Dean of Applied Science and Engineering in 1906. He laid the foundation for engineering courses that would stress principles rather than skills. As the years passed, the Faculty put increasing emphasis on education of the whole man. Two of the last four chairmen of the University's Board of Governors (Col. Eric Phillips and O. D. Vaughan) held U of T degrees in Engineering.

The rapid growth of interdisciplinary studies at Toronto has further broken down barriers separating engineers from scientists and humanists. For example, the Environmental Sciences and Engineering Program unites civil, chemical and mechanical engineers with political economists, medical doctors, geologists, geographers, zoologists, botanists, foresters and professors of law.

This is from the Engineering calendar for 1971–72:

"The Faculty of Applied Science and Engineering in the University of Toronto offers the widest range of undergraduate and postgraduate studies in engineering in Canada. ... Through the immense diversity of the resources of the University it is possible to do research in bio-engineering (engineering and medicine), in environmental engineering (urban planning and the control of pollution in air, water and land), in the history of technology, etc. This remarkable pattern of bridges linking the arts, sciences and professions in studies of man, his ideas and works adds a distinctive vitality and range to engineering at Toronto."

Recognition of the breadth and depth of engineering studies at this university was illustrated by the panel chosen by the U of T Alumni Association for Seminar 71, "a look at the decade we've entered and what it may mean in terms of freedom and how we live". Two of the five members were engineers: Dean James M. Ham (chairman) and Professor Bernard Etkin.

BERNARD ETKIN

Professor Etkin (at blackboard) and other members of the U of T aerospace group that helped the Apollo 13 astronauts to bring their crippled space-ship safely back to Earth
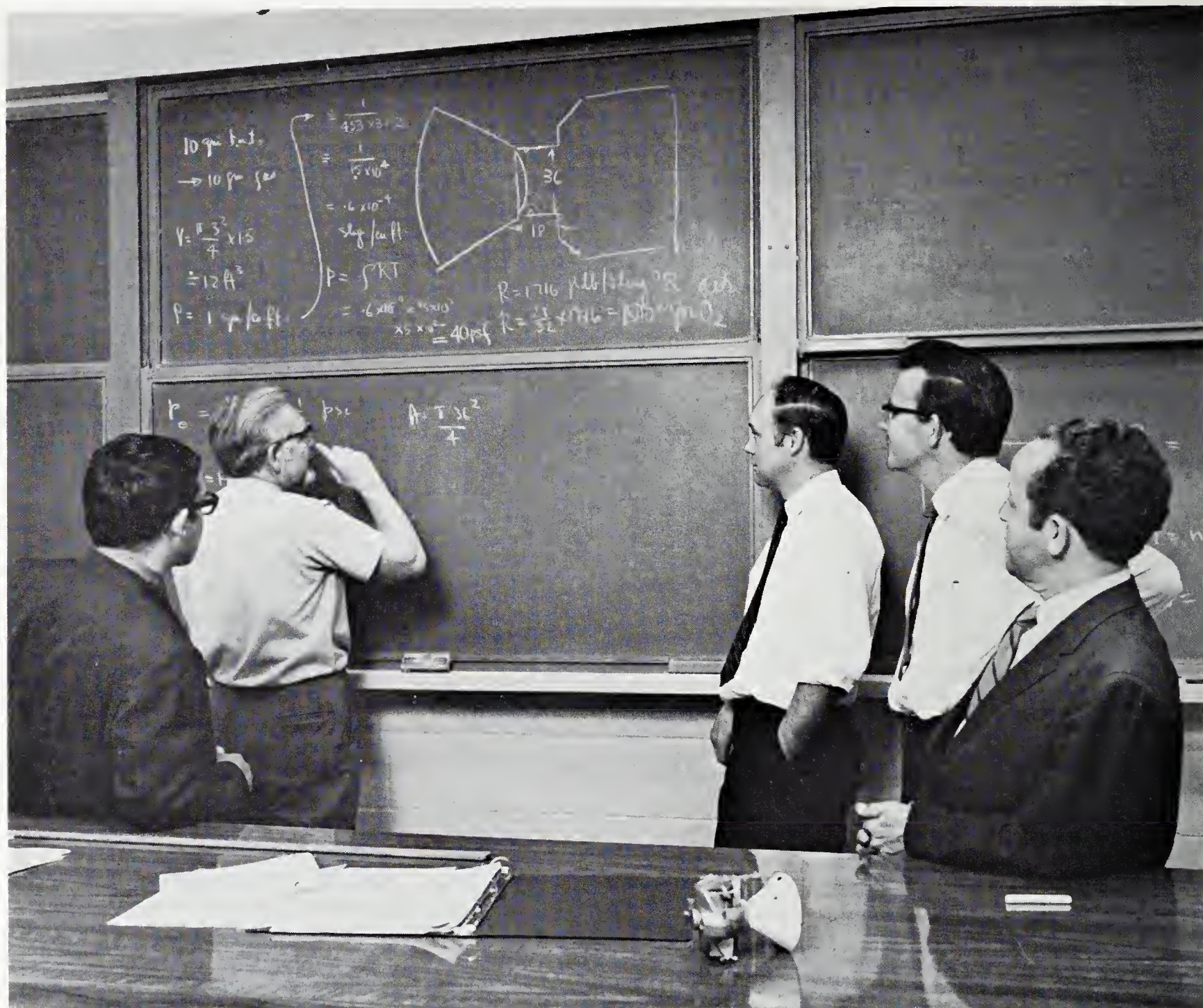
Yes, so far man has been able to live with technology, and to profit from the many advantages it offers. We are however now entering a new era, in which the quality of life for man is threatened in many ways. The simultaneous rapid growths of population and of technological innovation have combined to produce some alarming prospects. To mention four:

First, there is the rapid and accelerating depletion of the finite stores of natural resources to be found on Earth – natural resources of minerals and of fossil fuels. With a world population now of three and one-half billion and a projected population of seven billion by the year 2000, the prospect for our natural resources is a grim one indeed. Some day we will have used

up all the copper, or all the nickel, or all the oil that can economically be processed. Closely related to this rate of depletion of our resources is the utilization of arable land and fresh water, also finite resources.

Second, there is the current 'bandwagon' issue, pollution. Everybody

EXPLORATIONS

MARSHALL McLUHAN *Editor*

Engineering, Job or Role?

The new utopians are concerned with non-people and with people substitutes.
(ROBERT BOGUSLAW, *The New Utopians*)

Man is the measure of all things, and there is no other measure.
(TOBIAS DANZIG, *Number: The Language of Science*)

By the Law of Change, whatever has reached the extreme must turn back.
(Ancient Chinese lore, *I Ching*)

In SCIENCE (October 15, 1971) Charles Rosenberg reviews a book by Edwin T. Layton, Jr., *The Revolt of the Engineers* (Press of Case Western University, Cleveland, Ohio, 1971). Rosenberg notes that:

Since the second half of the 19th century, most engineers have been tied organically and inevitably to large bureaucratic entities. . . . the ultimate irony of professional engineering is that success implies abandoning its active practice; professional competence is in effect not an end in itself but a stepping stone in certain administrative and corporate career lines.

Both author and reviewer are bearing witness to the *effects* of nineteenth century industrial development. It opened up new careers to talents through specialization, while destroying old craft skills by fragmentation. It established the assembly-line for standard products with replaceable parts, and the organization chart with standard "slots" for irreplaceable people. Efficiency engineer F. W. Taylor was its prophet. He sought Utopia via more product for less labour. Nineteenth century industrialism transformed social *roles* into "measurable" goals to be achieved through planned, programmed, and specified *jobs*. It reduced nature to market where "nothing exceeds like excess". Measurement took command – higher speed, higher pay, higher rise. Stepping up became the main source of human satisfactions. For logic and mathematics never question their own assumptions. *In the nineteenth century, enrichment meant moreness, just as reality meant matching the old.*

Pushed to extreme, specialist fragmentation becomes obsolescent when its dis-services exceed its services to people: "As any fool can plainly see, ah can see it" says Al Capp's *Li'le Abner*. But Robert Boguslaw in *The New Utopians* (Prentice-Hall, Englewood, N.J., 1968) shows that general systems engineers in the name of "management science" are still trying to establish a new Swiftean *Laputa*, where man's wisdom is prostituted to the level of the computer's two-bit wit. But all Utopias are mere extensions of the "rear-view mirror". The new utopians have failed to *perceive* the "message of the birds": the output of any biological or psychic process is never a replica of its input but a re-presentation that is always qualitatively different. There are no "through-puts" or connections between processes in nature but only gaps or interfaces "where the action is". *Matching* the old is for machines, whereas *making* the new is for people. Not the intent but the *effects* of what technology does are its *message*.

Today, as change itself becomes the only constant, we can no longer afford to wait for feedback. Cybernetic models can never catch up to "where it's at". Having scrapped nature, we have assumed full responsibility for engineering the total environment of planet Polluto. Now we must learn to program evitable Fate by *anticipating* the *effects* of our technologies. Vancouver engineer, N. A. Johnson makes an inventory of the consequences of merely *reacting* to feedback:

Trees, fish and water fowl will have long since been banished from our midst either by the onslaught of concrete and steel or by the misuse of pesticides, herbicides, and detergents.

But fear not, Technology will itself overcome the legacy of noise, air, water, and visual pollution it has created. To start with, people will spend 98% of their time indoors. They will tan themselves under special vitamin enriched sunlamps; they will drink water distilled from the cooling systems of atomic reactors; they will eat synthetic foods and drink synthetic beverages.

Their homes, apartments, and automobiles will be equipped with special insulation to shut out the noise level prevailing outside and rose-colored windows to temper the functional ugliness of our technical accomplishments. Each dwelling will have a pressurized chamber to permit entrance and exit without allowing the external atmosphere indoors. . . .

So, gentlemen, let nobody shame us into putting human values before industrial expediency. There isn't a single ecological, environmental, aesthetic, or human problem that our technology has caused or may cause that we won't be able to overcome with more technology.

(Extract from letter by N. A. Johnson quoted in the *Canadian Consulting Engineer*, Oct. 1969)

The *meaning* of any artefact or service is what it does to its user; the *message* is what it does to everyone whether intended or not. Only lack of human awareness allows us to become faceless tentacles of our own technologies. For science and technology are extensions of man. Nevertheless the scientific formula for curing any disease of scientific specialism is always more science. But to offer small doses of humanistic nostrums as a substitute is a C. P. *Snow* job. For *perceptual* training is the actual need. And the percepts of the artist always precede the concepts of the scientist. *In the twentieth century, enrichment means diversity, just as reality means making the new.*

Exponential curves reach infinity only in mathematics, and s-curves tell only part of the story. Millenia ago, Chinese sages noted in *I Ching* or *The Book of Changes*: that any process pushed to extremes of scope, speed, or size reverses its *effects*. Computer programmers have since learned that "information overload leads to pattern recognition". The breakdown makes the breakthrough possible. The hangup is *seen* in sequential connections while the bypass is *heard* in simultaneous resonance. Not answers but questions are the main resource as "software" information displaces "hardware" product by design. For processing ignorance is the future of knowledge. Engineers who can *perceive* the relevant patterns find the solutions not outside but *inside* their problems. Such were the pre-literate Hercules in the Augean stables and the comprehensivist Leonardo da Vinci in the Renaissance. In today's world of information speedup, the wise engineer also knows when to "drop out" in order to "keep in touch". *Science organizes knowledge for retrieval, whereas art organizes ignorance for discovery.*

"In my end is my beginning."
(T. S. ELIOT, *Four Quartets*)

Edgar Allan Poe was the first to stress the need to begin with *effects* and to work backward, in poetry and detective fiction alike. In the ascent from *The Maelström* Poe describes how a swimmer escapes drowning by ignoring his assumptions and studying the effects of the whirlpool itself. By re-learning how to use *all* our senses like "artists" or children, we can also learn to *perceive where it is at*. By applying our specialist concepts, not as packages but as *probes* to explore problems on every side, we can learn to *recognize* the relevant process patterns. By pushing such patterns forward, we can learn to anticipate their effects – both services and disservices – before allowing the causes to develop. No longer, merely choosing options, we can "learn our living" by making them.

Today, the engineering *job* is to "etherealize" "hardware" products – to do more and more with less and less through knowledge. Pushed to extreme, etherealizing leads to a world of pure information. Now all boundaries have gone with the ether. Old groundrules, mechanical and cybernetic alike, have flipped. No longer is our chief concern the production of "hardware" *for exchange* – what the buyer gains the seller gives; it is the organization of information *to share* – what the buyer gains the seller retains. But by learning to share our ignorance through dialogue, we can also discover new knowledge – what everyone gains *beyond exchange*. The old fragmentation pattern pushed to extreme is now visibly transforming into new modes of participation. As cybernation takes over the "production" *job*, THINKING BECOMES

DOING – the human *role*. Specialist *jobs* drop out through speedup of information flow, just as comprehensivist *roles* drop in through understanding total processes in action.

The comprehensive engineer can build bridges of perception from the world of industrial products to the universe of human satisfactions. Today's *engineering role* is to design the present as the future of the future.

BARRINGTON NEVITT,
International Engineering marketing consultant,
2 Clarendon Ave., Apt. 207,
Toronto 7, Ontario.
November 29, 1971.

Generic names in Ontario — The case for retention of the place element in geographical nomenclature

MICHAEL B. SMART
The Ontario Geographic Names Board
Toronto

The Ontario Geographic Names Board has been invited to state its position with reference to a proposal that the generic form be eliminated from geographical names on Canadian maps. On the understanding that "generic" in this context means the descriptive element found in most geographical feature and place names, e.g. CREEK in COLDWATER CREEK or CORNERS in HEMLOCK CORNERS; and that *all* topographic generics of this form are involved (i.e. not only the very common LAKE, RIVER, CREEK, etc.); the OGNB has decided against the elimination proposal. In point of fact, it has been Board policy that every effort be made to determine which generics are actually in use for given places and features, and to record and submit these for official approval. With these premises in mind, this paper sets out to explore some arguments supporting the Board's present procedure regarding the status of topographic generics on maps.

Basically the overruling consideration behind the OGNB resolution is the fact that in English place and feature names, the site element remains an inseparable aspect of Anglo-Saxon landscape nomenclature. "Topos" and place, after all, mean the same thing. In spite of their sometimes long evolution from purely verbal and descriptive feature name to inhabited place name forms – and to surnames and back to place names – relatively few Anglo-Saxon toponyms have ever lost their place or topographic element. The place or site generic remains the immemorial link with the land.

Significantly, such is not the case with the majority of toponyms in French Canada.

Other priorities and other traditions – quite foreign to the Celtic, Teutonic or even Amerindian traditional sense of empathy with the land – prevail. It is this central fact which accounts for the facility with which most French Canadian toponyms can be shorn of their geographical elements, viz., LAC, RIVIÈRE, RUISSEAU, MONT, ÉTANG, etc., without any significant effect on their meaning in the cultural landscape. Not so in English – with the exception of a proportionately smaller number which belong to a tradition more akin to the prevailing form in French Canada.

Another reason for the OGNB stand against any proposal ostensibly designed to eliminate place generics from the map is that such a procedure clearly contravenes the Board's policy of according prime consideration to local usage – which *includes* local generics. English, in its verbal and written form – unlike French – or Italian for that matter – is governed by popular usage – a continuing process – and one exemplified by the fact that the language defers to no authoritative linguistic academy. In a similar logical context, England, and regions of the world settled by her people, quite unlike France and lands colonized by Frenchmen, also has a common law, i.e. an unwritten law of the land laying claim to ancient usage derivation. Correspondingly, the referendum versus the edict approach to what constitutes *usage* underlies the generic names issue just as it does in matters determining juridical or linguistic norms.

Governed by the same logical tradition is the analogous procedure of raising English words used in the vernacular to official status and position in the dictionary. Words (like names) observed and recorded in popular usage are recorded in the addenda. After a suitable period of exposure in print and depending upon whether they do or do not receive official approval, they are incorporated within the body of the dictionary. A comparable tradition governs the evolution of the Anglo-Saxon toponym from its unrecorded place in the oral tradition to its approved status on the map as an official name.

The Place of Place in Toponymy
The proposal that total elimination of place name generics be considered as a national policy could hardly have arisen in an area dominated by Anglo-Saxon and Amerindian toponyms. Emphasis in the Anglo-Saxon place name is on *place* – in the French – on *name*. The exception in French is the "toponyme descriptif" such as *ANSE* A L'ORME, similar to PARRY *SOUND* or the Ojibwa NOTTAWA*SAGA*. ANSE, SOUND and SAGA represent water feature generics. With emphasis placed upon the commemorative name element in French Canadian

nomenclature, it is understandable that an argument against terrestrial generics on the grounds that they are redundant should find favourable response in French Canada. Particularly so at a time when great numbers of historically fixed Anglo-Saxon place and feature names are being submerged in translation or have disappeared completely from map and signpost.

In general, 19th and 20th century toponyms in French Canada stress the commemorative name only. This is, however, a usage quite at odds with place names dating from the exploration and colonization period (16th to 17th centuries), or for that matter with most names on modern maps of rural France. Compared to place names which stress the geographical concept, French Canadian toponyms tend to function as place name memorials to national heroes and saints. In topographic terms they make little sense, but like French street names they were not intended to make that sort of sense in the first place. In short: where Anglo-Saxon usage normally uses a name to describe a lake, hill or village – in French Canadian usage the same lake, hill or village would be used to commemorate a name.

Significantly, most feature and place names on rural Saint-Pierre-et-Miquelon (off Newfoundland) are not of this genre. The fact that these islands – unlike Québec – retain their cultural links with France may account for the fact that Québec's place names no longer are "toponymes descriptif". Similar to their Anglo-Saxon, German, or Amerindian counterparts, "toponymes descriptif" are names in which the specific element (oak, burnt, mud, smoky) qualifies the place element (point, creek, lake, hollow). These names are not the rule in rural Québec, though a proportionately small number such as LE-LONG-SAULT, RAPIDE-BLANC, or POINTE-AUX-TREMBLES indicate that toponymy was once otherwise inspired in French Canada. In the latter example, the specific element TREMBLES (aspen) qualifies the place element POINTE. Had the descriptive (i.e. the topographic) approach to place naming not given way in French Canada to the memorial and nationally commemorative, the current discussion dealing with the feasibility of doing away with geographical generic names (river, lake, brook, pond, hill, etc.) on Canadian maps may never have arisen. The arguments advanced for their elimination would hardly have been seriously considered either.

A French toponym such as ÎLE-À-L'ORME belongs to the same descriptive naming tradition as the English ISLAND POND or CHURCH HILL. It is neither nationalistic nor patronymic. A SAINTE-ÉMELIE-DE-L'ÉNERGIE on the other hand, represents an entirely different approach altogether.

The very existence on modern maps of

such names as LAPRAIRIE, TROIS-RIVIÈRES, BOUT-DE-L'ÎLE, RIVIÈRE-DES-PRAIRIES and so on bears witness to the early habitant's essentially visual approach to his new territory – and by the same token – his descendants' obvious departure from it. The shift in focus from place to name identification seems to go hand in hand with geopolitical events in the late 18th century New France which brought about the transfer of French Canada to the English crown. The ensuing struggle for national and linguistic identity found expression in a national toponymy as a medium of cultural sublimation. Though the right to one's own tongue was guaranteed constitutionally, the land itself and the old seigneurial system passed from French political control. French place and feature nomenclature – which was in large measure retained – was transformed, in that it disassociated itself from the land and its topography. Honorific place names thus became an early vehicle of French Canadian cultural nationalism.

It goes without saying that a nationally inspired nomenclature, i.e. one laid down arbitrarily in written form – presents great problems of integration with one topographically inspired, i.e. based on a close cultural interrelationship with the land. With French and English accorded equal status as official languages in Canada, a bicultural policy in toponymy is unavoidable – perhaps resulting in two official names in the gazetteer and one on the map. A unilingual policy in Québec leaves one with few alternatives.

Teutonic and Latin nomenclature traditions have their roots in very different cultural environments – a fact readily demonstrated by the street names which a people use for their cities and towns. A glance at any map of a French city or town reveals a galaxy of name variations based on heroic, historical and canonical themes – all expressive of a national character having little in common with the ethos embodied in Anglo-Saxon toponymy – be it of a residential suburb or wilderness glen.

French streets usually carry names descriptive of anything but themselves. An English street, on the other hand, often bears a name descriptive of its topography, historical associations or destination. Names such as UPPER GROUND, LOWER MARSH, LONDON WALL, SKINNER'S LANE, CORNHILL, DOVER STREET and BATH ROAD are typically English and, as a type of place name have been adopted everywhere in the English speaking world.

The tradition of using street nomenclature in the commemorative sense is the norm in French towns and cities – a usage which may date from the Revolution and its code of arbitration in nomenclature based on written law, as opposed to the pre-revolutionary toponymy of the countryside.

The non-role of the place generic in French urban nomenclature

A nation's metropolitan nomenclature – in providing a clue to type and character of names given to street and square – also gives one considerable insight into a nation's hierarchy of values and some measure of the degree of empathy which it has vis-à-vis its physical environment – at least in toponymic terms.

Names with rural connotations are not unusual within the urban fabric of English towns and cities – being simply toponymic survivals of former peripheral village communities absorbed into the urban fabric in the outward course of urbanization. Such names have not often survived in French urban nomenclature – having been submerged in a sea of name memorials. There are of course the usual exceptions – Montréal has its RUE-DU-MARCHE-BONSECOURS. However, normal usage in French towns and cities tend to be overwhelmingly nationally commemorative rather than place descriptive. Unlike France, Québec has carried this memorial – and sometimes political – tradition in names into its countryside. It is this fact of Canadian usage which presents the subcommittee with little alternative but to opt for a dual policy regarding generics.

Geographical generics are as essential to the one tradition as they are not to the other – consequently, a generic elimination programme disastrous to Ontario would scarcely affect most Québec toponyms. Descriptive toponyms such as STONE BRIDGE or HARDWOOD RIDGE would be doomed – ST. ÉMILE-DE-MONTCALM or ST. LOUIS-DE-FRANCE would not (unless the canonical generic itself were purged).

The theme central to this paper is one concerned with understanding the nature of the cultural unconformity dividing the two official toponymic traditions in this country. An example of such variation in nomenclature tradition is obvious to anyone who cares to compare French Canadian place names with place name usage in similar landscapes in other French speaking parts of the world. Significant to the present discussion is the fact that a naming tradition typical of French *towns* and *cities* in Europe should have been transplanted – not only to the urban environments of French Canada – but to the *countryside*. It is precisely here – in the countryside (and wilderness) that the Commission de Géographie du Québec and the Ontario Geographic Names Board have jurisdiction (municipal areas are governed by other statutory authorities).

As already indicated, the pattern of geographical feature and populated place names on the islands of St. Pierre-et-Miquelon is significantly dissimilar to that of Québec as to invite further comparisons. One notes considerable affinity between the type of to-

ponyms used on the French Islands and those of nearby Newfoundland. Both are predominantly descriptive.

While most landscapes settled and named by English speaking settlers follow the same toponymic pattern, this does not seem to follow with the French in Québec. As far as the rural areas are concerned, French Canadian toponymy possesses a unique character. Its imputed political-national origins seem clear. In this regard St. Pierre appears to belong to the pre-revolutionary tradition of rural France as did pre 1763 New France.

Topographical map and non-topographical Toponym

The low status, topographically speaking, of terrestrially descriptive generics in French Canada is a feature to be reckoned with in the formulation of any national policy for geographical names on Canadian maps. A policy which seems to be aimed at the elimination of the vast number of repititious and easily translated generic names – especially those considered replaceable by cartographic symbol – may in the final analysis create more problems than it sets out to solve. This is particularly true if any degree of consistency of "follow-through" is applied. Where does one draw the line? Easily translated and symbolised generics as LAKE, CREEK, RIVER, MARSH, etc. may indeed seem more effective as symbols rather than as names, particularly where bilingual maps are concerned. However, it is quite another matter, when these very generics form the *integral* part of a feature or place name. A cartographic symbol must not usurp such names. One needs only to consider some of the generic variations in popular usage, viz. GLEN, VALE, BURN, TARN, BUTTE, SLOUGH, MUSKEG, etc. Clearly far more is involved in a place or feature name than physiographic or man-made feature description. Some places and features have qualities and historical associations that can *only* be communicated in a name – never in a mere symbol. Topographical generics are the basis of Anglo-Saxon toponymy. The implementation of a non-generic policy for official maps in Quebec would mean the ruin of many Anglo-Saxon place names. In view of the status of the generic name in the rest of the country, the likelihood of such a policy being implemented nationally is considered to be remote.

Perceived in its deeper psychic and social context, the real content of Québec toponymy is French Canada. In English (or even Amerindian or Eskimo) Canada, it is the land. Similarly, in French urban toponymy it is clearly the nation. Paris demonstrates this graphically in its street nomenclature. The city is a geographical register of folk heroes, saints and national events. Toponymy in such a context has precious few links with topography.

In total contrast to the place descriptive street names of London, French urban names, as typified by Paris, appear as a maze of chauvinistic commemorations and memorials. The tradition of investing one's geography with nationality lives on in Québec, though unlike France, the custom extends beyond the artificial features of town and city and takes in the places and features of the rural and wilderness landscape.

The Gallic detachment from things terrestrial is attested to (at least since the Revolution) in his choice of designation for street and square. In marked contrast, the Anglo-Saxon's choice of name for the same feature bears witness to the bond he consciously preserves with the land. Commemorative nomenclature exists to be sure, but it is far from being the rule.

Both traditions co-exist in Québec. Whether they will be permitted to continue to do so, however, is a moot point.

Even the most cursory study of Parisian street nomenclature reveals a pattern, style and type of name usage which places the Latin (or Gallic) and Teutonic traditions in opposite camps. The dominance of the personal and national in Latin usage speaks for itself.

English street names, and English river, mountain, lake, hill, and valley names become quite meaningless, and intrinsically placeless designations once they are deprived of their place elements. Such topographically detached names constitute the norm in Québec. There toponymy tends to be regarded as a logical expression of the national image. While such usage may be considered acceptable and logical in the Québec milieu, any such procedure which strips the descriptive generic from Anglo-Saxon toponymy completely deprives it of its territorial identity and meaning. Such an eventuality must be resisted.

No more effective illustration of the bi-cultural hiatus in name usage between French and English Canada exists than that of London and Paris – the cultural main springs of the two Canadian traditions under discussion. Paris reveals a genre of street and boulevard names remarkable in their conformity to type. So does London, Melbourne, Toronto and Auckland.

Nomenclature as national history

Consider Paris: Begin, for argument's sake, at PLACE-DU-TROCADERO and proceed in a northeasterly direction towards MONT-MATRE. Such a cross-city traverse takes in names such as AVENUE-DU-PRESIDENT-WILSON, PLACE-D'IÉNA, PLACE-DE-L'ALMA, AVENUE-MONTAIGNE, AVE-NUE-DE-CHAMPS-ÉLYSÉES, PLACE-DE-LA-CONCORDE, RU-DE-RIVOLI, RUE-ST. ROCH, AVENUE-DE-L'OPÉRA, RUE-SAINTE-ANNE, RUE-GRAMONT, BOULE-VARD-DE-ITALIENS, RUE-LAFITTE, RUE-

BOURDAL, RUE-DES-MARTYRS and so on. All manifestly non-topographical. No need therefore for topographical generics.

Nomenclature in the Telluric image

A similar study of the road and street nomenclature of metropolitan London reveals a very different usage and one typical of the Anglo-Saxon world. London streets carry names that can boast of a purely local evolution, having sprung from local usage. Rarely are they designations that have been imposed or laid down by rule of law. Their immemorial role as linguistic translators of place and cultural contacts with the past has been explored by British archaeologist Jacquetta Hawkes:

> There is a sense in which the ordering of speech has a direct effect ... on the land. Names could be attached to all those features of the countryside that attracted men's attention or were of significance in their lives. Mountains, rivers, springs, places where reindeer congregated, where a giant mammoth had been trapped or a famous hunter killed. Above all, places associated with ancestral spirits, gods and heroes. Place names are among the things that link men most intimately with their territory. As the generations pass on these names from one to the other, successive tongues wear away the syllables just as water and wind smooth the rocks; so closely, indeed, that often place names outlast the language that made them, remaining as evidence of the former presence of dispossessed or submerged peoples ...

> A name can become a part of the character of a place, and, when caught up in the art of its people, can assume a life and significance of its own. The FOREST of ARDEN, BENBULBIN, the RIVER DUDDON, WENLOCK EDGE or FLATFORD MILL, they are all strands woven into our culture. Count these peoples fortunate who, like ourselves, have been able to keep the warp threads of the fabric long their histories in one piece. (Anglo-Saxon) place names, although much changed by passage across English tongues, have survived to be fixed at least in the neat lettering and regular spelling of the Ordnance Survey maps.

The rich variety of geographical generics in London's street names is in sharp contrast to their conspicuous absence in the French capital. They in fact form part and parcel of a tradition that has been exported to every suburb and countryside in the English speaking world – including most of Ontario.

An examination of a large scale map of central London, in the manner of the French example, presents one at once with a different orientation in names. A journey from HAMMERSMITH to ST. PAUL'S *CHURCHYARD* yields the following cross section of English generics: HAMMERSMITH *BROADWAY*, HAMMERSMITH *ROAD*, KENSINGTON *COURT*, KENSINGTON *HIGH STREET*, KENSINGTON *GARDENS*, KENSINGTON *ROAD*, HYDE PARK *GATE*, KENSINGTON *GORE*, KNIGHTS*BRIDGE*, HYDE PARK *CORNER*, PARK *LANE*, NORTH *ROW*, OXFORD STREET, PICCADILLY *CIRCUS*, *HAYMARKET*, *LEICES*-TER *SQUARE*, LONG *ACRE*, COVENT *GARDEN*, ALDWYCH, THE *STRAND*, TEMPLE *BAR*, *FLEET*STREET, LUD*GATE* CIRCUS, and LUDGATE *HILL*, to name only the obvious ones. All manifestly topographical. All meaningless without their geographical generics and none commemorative in the French chauvinistic sense.

The richness of English in such generics is amply borne out in an example culled from London – an example which illustrates particularly well the range and flexibility of the topographic generic in English urban toponymy. With reference to the name WESTBOURNE (itself a "toponyme descriptif" in origin), we find in West London the following site variations linked to this one name: WESTBOURNE AVENUE, BRIDGE, CRESCENT, DRIVE, GARDENS, GROVE, GROVE TERRACE, PARK ROAD, PLACE, ROAD, STREET, TERRACE, TERRACE ROAD, PARK VILLAS and so on. Corresponding examples of such precision in generic usage hardly exist in the French tradition. Cartographic symbols accordingly make for more sense to a French map user.

English speaking urban areas within Quebec have their: BEAVERHALL *HILL*, BOWLING *GREEN*, LAKEBREEZE *ROAD*, SUNNY *ACRES*, BEACONS*FIELD* *COURT*, OAK*RIDGE DRIVE*, SPRUCE *CRESCENT*, SUNNY*SIDE AVENUE*, etc. Beyond the built up urban areas the tradition carries on in the countryside in *GLEN* SUTTON, COLD *SPRING*, OAK *LAKE*, *LAKE* VIEW, GARDEN *HILL*, HIGHLAND *GROVE*, ROCKY *POINT*, etc. No policy prescribing geographical generics can, in the name of cartographic symbolization, hope to avoid interfering with such names.

The OGNB maintains its present policy of bringing into line the contemporary written and cartographic names record with the contemporary spoken record on the ground. This is in keeping with the referendum as opposed to the edict approach to name proposals and changes – Anglo-Saxon procedure since time immemorial. In the modern context, district foresters, postmasters, township clerks, and similarly placed persons serve as spokesmen for the local record. On this point of principle and procedure, it would seem inevitable, as well as logical, that English and French Canadian names boards be expected to function independently.

The root of the generic issue is cultural – even emotional – and one not easily resolved by academic or logical analysis. Even within Anglo-Saxon toponymy itself, some consid-

erable degree of flexibility needs be allowed for *local generics*. Witness the use of GLEN, RAVINE, DELL, DALE, VALLEY, HOLLOW, DINGLE, COMBE, COOMB or BOTTOM for a geographical feature identified simply as "valley" in gazetteers.

On the question of local generic usage the Ontario Board proposes that the current gazetteer listing under "FEATURE" (as it appears in the 1962 edition and its supplements) be headed "LOCAL GENERIC" or even "LOCAL AND LEGAL GENERIC" *if* the present column of feature generics is retained in a new edition. The Newfoundland hydrographic feature POOL'S ISLAND TICKLE would accordingly be listed as TICKLE and not as CHANNEL (as it is currently). It is the latter form which constitutes local usage. If the CPCGN rules, or recommends, that a Newfoundland TICKLE be classified as a CHANNEL, and a POND as a LAKE, then by the same logic, Ontario's BLUE MOUNTAIN is a HILL. British Columbia and Alberta members would certainly concur. Far better, therefore, that the local generic be recognized on its own merits. Definitions and explanations would be comprehensively dealt with in the foreword.

In any purge of geographical, chorological or topographical generics, especially one pursued with the degree of thoroughness implied above, not only would Anglo-Saxon toponyms face ruin and extinction, but so would those bearing a similar relationship to the land. These being, in Ontario, those names inherited for the most part from the Cree and Ojibwa.

The OGNB reaffirms its resolution to retain in Ontario, on principle, geographical generics in descriptive place and feature nomenclature and, that these linguistic contacts with our present and past geographical environments not be eliminated from map or gazetteer for the cartographic or cultural reasons mentioned in this paper. On the contrary, they should receive special consideration as inherited characteristics of our multinational past. Our landscapes would be impoverished without them.

In this regard, the OGNB also proposes to adopt, and implement, with the assistance of authorized persons in the field, a policy according official approval to *local forms* of populated place and topographic feature generics in established usage. In the Blue Mountain example cited above, an escarpment feature near Collingwood (Ontario) is known locally as a MOUNTAIN. This being so, the generic used should be recorded (as it is in this case) – in spite of the fact that in Western Canada such a designation would appear ludicrous.

In a related field of terminology, such legal generics as VILLAGE (INC.); TOWN (MUN.); RURAL DEVELOPMENT DISTRICT, etc. might also be eliminated from future gazetteers. If this were done, there would then be little reason to include "LEGAL" (as suggested) in the feature generic column. As proposed by Mr. G. F. Delaney in a recent discussion, the generic term "COMMUNITY" might well be used in future for all *incorporated* places. Much confusing municipal terminology would thereby be effectively circumvented. These are not geographical names and the OGNB has expressed its agreement to the idea.

On the strength of this paper's research, the recommendation is made, that in the formulation of a national policy on geographical generics, applicable to both official linguistic traditions of this country, the following points be taken into consideration:

1 The case for or against geographical generics is essentially a cultural and emotional one. Little, therefore, is to be gained through the imposition of a purely logical and objective solution.

2 There is a place for cartographic symbolization in situations where unnecessary use of map space for repetitive and translatable bilingual terminology is concerned. Nevertheless, there is no place for stereotyped symbols as substitutes for names where those names provide the linguistic and historical link between a people and the land.

3 English and French Canadian toponymic traditions require separate treatment.

4 Geographical, chorological and topographic generics cannot be removed from their original context without rendering the remainder meaningless.

As implied throughout this paper, the possibility that the Commission de Géographie de Québec will implement its own policy vis-à-vis the generic issue must be taken into account. As argued, this would be the logical course to take for an autonomous board working exclusively, and defensively, within the French nomenclature tradition.

In conclusion, the hope is expressed that some of the arguments presented in this paper shall serve to impress upon the Québec Board in particular, and the CPCGN in general, the importance of understanding the real place of the geographical generic in place names. This is especially vital today in areas of Québec where Anglo-Saxon toponyms remain in use locally – having so far survived rescission or alteration through partial or complete translation. An EAST BRANCH, for example, is lost as RIVIÈRE DE L'EST yet this "translation" has already been implemented.

Maps may have to reflect the political realities of the day, but surely not at the very high price of forfeiting another's rights to what is essentially a non-political record of his own cultural past.

An interview about typewriters, with McLuhan, Poet, Secretary

JACK DAVID

Moderator: Generally speaking, how would you describe the relation of the typist to the typewriter?

McLuhan: The typist yatters to the script.

Poet: The type-face is a standard pica – if it were another style, I'd write (subtly) different poems. And when a ribbon gets dull, my poems I'm sure change.

Secretary: I usually tend to wear dark clothes, and to choose dark clothes when I go shopping because I'm always getting ink on my hands and my clothes, partly from the ditto and partly from the typewriter.

Moderator: Would you say that the typewriter has changed the way you read? The way you write?

McLuhan: The typewriter fuses composition and publication, causing an entirely new attitude to the written and printed word. Composing on the typewriter has altered the forms of the language and literature.

Poet: The ribbons may be of various ages – several ribbons may be used on a single typestract – inked ribbon and manifold (carbon) can be combined on the same typestract – pressures may be varied – overprints and semi-overprints (½ back or ½ forward) are available.

Secretary: I look at the letters themselves, never at the words. I am much more concerned with the appearance of the letter than with what it says. If I stopped to read everything that passed by my desk I'd never get anything done.

Moderator: Could you speculate on how the typewriter affects handwriting?

McLuhan: Most clear writing is a sign that there is no exploration going on.

Poet: I write on a typewriter, almost never in hand (I can hardly handwrite: I tend to draw words), and my machine – an obsolete red-top Royal Portable, is the biggest influence on my work.

Secretary: You know, when I was in Public School, I had really good handwriting – the kind where all the letters lean on a slight angle to the right, and all the 'l's and 'b's stood up straight. But now, since I've been typing, my handwriting is horrible.

Moderator: Do you think that the typewriter could alter the tone of a message? How about the expression?

McLuhan: The typewriter is a means of transcribing thought, not expressing it.

Poet: The expressive changeover from small to capital letters is shown through the gradual engagement and disengagement of the shift key.

Secretary: I sometimes have to change the tone of a letter that looks different to me on paper than it sounded when it was dictated to me. Just a very small change, sometimes only punctuation, is enough to do it. I don't do it that often, though.

Moderator: Does the typewriter place a limit on how much personality enters the written expression?

McLuhan: Typing reduces expression from art to craft, from personal to impersonal.

Poet: I believe that it is necessary to get away from personal taste and style.

Secretary: I always write my personal letters on the typewriter. When I write them by hand I can't keep up with the flow of thoughts. But I can type way faster than I can write. I admit it cuts down on the personal level a bit, but what can you do?

Moderator: Would you say that the typewriter has affected the rhythm of our speech or the rhythm of our musical patterns?

McLuhan: The typewriter is part of our oral revolution.

Poet: It is the advantage of the typewriter that, due to its rigidity and its space precisions, it can, for a poet, indicate exactly the breath, the pauses, the suspensions even of the syllables, the juxtapositions even of parts of phrases, which he intends.

Secretary: I studied piano when I was a girl and I'm sure that the training helped me when I started to learn how to type. Mostly it's the fingers – they're held the same way for both – and the rhythm. Sometimes you can hear a sort of music in the typewriter.

Moderator: How could you describe the rhythmical effect of the typewriter on literature and music?

McLuhan: The rhythm of typing favours short, concise, sentences, sentences with oral form.

Poet: For the first time the poet has the stave and bar a musician has had. They are composing as though verse was to have the reading its writing involved, as though not the eye but the ear was to be its measurer.

Secretary: We were taught in typing school that you should maintain a nice even rhythm. In fact, we were supposed to practise with marching music in the background. You know – thump, thump, thump. And it's true. The more even the rhythm is, the faster you type and the fewer mistakes you make.

Moderator: Has the typewriter created anything original? An art form, or perhaps a different way of thinking?

McLuhan: If the typewriter has contributed greatly to the familiar forms of the homogenized specialism and fragmentation that is print culture, it has also created an integration of functions and the creation of much private independence.

Poet: The virtuoso use of the typewriter can result in works which belong unequivocably to the category of concrete poetry.

Secretary: When I'm typing a long thing, my

mind tends to wander all over the place. Yes, you could say that it was sort of a meditation or trance. I lose touch with the machine, with the sounds of the keys, of everything around me. I go off into my own little world.

NOTES:

The quotes from Marshall McLuhan are taken from the following sources:

1 *Explorations*, section 11
2 *Understanding Media: The Extensions of Man*. New York: McGraw-Hill Book Company, 1965, p. 260
3 *The McLuhan Explosion*, compiled by Harry H. Crosby and George R. Bond. New York: American Book Co., 1968, p. 144
4 *Counter Blast*, p. 103
5 *Counter Blast*, p. 103
6 *Explorations in Communications, an Anthology*. Eds. Edmund Carpenter and Marshall McLuhan. Boston, Beacon Press, 1960, section 11
7 *Counter Blast*. New York: Harcourt, Brace & World, 1969, p. 104
8 *Understanding Media*, p. 259

The quotes from the poets are from the following sources:

1 Aram Saroyan in *Williams*
2 Dom Sylvester Houedard in *Williams*
3 Aram Saroyan in *An Anthology of Concrete Poetry*, ed. Emmett Williams. New York: Something Else, 1967, unpaged
4 Emmett Williams in *Williams*
5 Hansjorg Mayer in *Concrete Poetry: A World View*, ed. Mary Ellen Solt. Bloomington: Indiana University Press, 1968, p. 18
6 Charles Olson, "Projective Verse", *Selected Writings of Charles Olson*, ed. Robert Creeley. New York: New Directions, 1968, p. 30
7 *Projective Verse*, p. 30
8 Stephen Bann in *Concrete Poetry*, ed. Stephen Bann. London, Dufour, 1968, p. 24

The quotes from the secretaries are paraphrases of interviews taken by the author during the week of February 16–23, 1971, at The University of Windsor.

Any mistakes are the author's alone.

The Museum as a Perception Kit

excerpted from *The Culture Box*
by HARLEY PARKER,
to be published by Harper & Row,
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Verbivocovisual

What is a perception kit? It is a collection of *oddments put together to provide sensory awareness.* Museums also could fit that definition. It is unlikely that many people who work in museums have ever thought of them in that way. Museums by their very nature tend toward massive immobility. For, they deal with the past which is thought to be immutable. On the contrary, the past is viable because it is NOW. Artifacts in mus-

eums, no matter from what epoch of time they may have come, can serve as illuminators of the present.

Sensory Study in Museums

Only in museums does there exist opportunity to study so many meaningful examples of the sensory orchestrations of peoples. Let us postulate a learning situation in which a class instead of being concerned with the documentation of objects — who made what, when, tries to understand why, whatever it is, was made in that peculiar way. What tools did the maker have? What was his relationship to his world? For example, in order to have insights, we must stop looking at Indians through the eyes of a twentieth century boy scout at camp in the woods of Michigan or Ontario. Perhaps it is possible to empathically encounter the sense life of the Indian. He certainly didn't walk the way we do with our concrete battered, shoe-squeezed feet. His sense of smell was very acute, there was little noxious to smell so he didn't have to hold his nose. Besides, his nose, inasmuch as he was a hunter, was very important to him. His eyes, too, undimmed by artificial light, and trained to catch the slightest movement, were acute and his whole world was filled with a multitude of things we would never see. The Noble Savage? Perhaps, but not with the phony connotations. His environment was an untamed one and by our standards life was hard. I am not suggesting, even if it were possible, that we should return to the life of the pre-literate. It is only being suggested that if our museums would really give us the opportunity to be aware of the way pre-literate man lived, through all his senses, perhaps we would do a better job of putting our own environment into reasonable order.

Museums are Art Forms

If museums would offer more insights into the values which govern human action in alien cultures the audience would be able to conduct an intelligent re-appraisal of accustomed stances. It appears that constantly in this book we drift away from museums and into life generally, but that, after all, is what museums should be about. Museums are themselves art forms, and by more careful designing they could be much more potent instruments for probing both our physical and psychical environment.

Perception Training

If, as is maintained here, one of the greatest needs in education today is training in perception then obviously museums, whether of art, science or history, would be a good ground for such activity. Kenneth R. Boulding from the Department of Economics, University of Michigan in an article in *Technology and Culture*[1] says: "The rapid rate of development of the image which man has of himself creates very grave problems inasmuch

as such images are generally learned early in life and are still the same when a man has, perhaps, reached a position of power. There seems to be a wide horizon of technological advancement in front of the museum, not only in the use of the ear as well as the eye for the development of participant exhibits, the applications of programmed learning and indeed the whole concept of the museum as a three dimensional, constantly available learning facility. If this opportunity is to be seized, however, it requires a breakdown of the present isolation of the museum sub-culture, and it involves getting a large part of the scientific community itself interested in the problem of the rapid spread of developed images. We have seen the enormous impact when an important segment of the scientific community gets interested in schools, as in the recent revolution in the teaching of mathmatics and the natural sciences. A similar revolution in the museum is by no means impossible. The critical question is whether the people who run museums around the world have a sufficient sense of vocational unity to respond to this image of their potential significance. If they do, they may be a very key element in the formation of the world community." In addition to a "sufficient sense of vocational unity" which would be, of course, a pre-requisite, an understanding of the disastrous implications inherent in *not understanding* should be sufficient to constrain them to work (or better, play) with great alacrity.

Museums with their vast array of materials culled from the midden heaps, "digs" and anthropological discoveries of the world, represent an unparalleled opportunity for the training of perception. To dislocate an individual is one prime method of inducing a perceptive stance. To place a suburbanite in a slum may not be pleasant for the participant but it will certainly be an "eye-opener" – and museum exhibitions should be designed to take advantage of this shock factor.

The content is the user

I am faced with a canvas stretched on a frame and the canvas is covered with paint. In the bottom corner is the signature *Rembrandt*. My problem is to make a work of art using the painting as a launching pad for creative thought or action. The natural environment could be used for this purpose but environments are rarely perceived. Just the setting apart of one part of the environment, and that part designed as a launching pad for creative action, brings the painting into an area of conscious perception. The content of any medium is the user of that medium says McLuhan. This is certainly true, for no medium or work of art exists *in vacuo*. Always the audience or spectator is needed to complete the experience – always the subjective completion is necessary in order that a work of art can come into being.

A projected exhibition

Set up a series of areas, each to be devoted to one ethnic group. The purpose is to examine the way people have thought of their spaces, their food, their shelters and their sounds. What surfaces did they walk on; how high were their ceilings; what were their building materials? In other words, the total relationship of man to environment, the way he has solved the problems and delighted in the joys of living is to be examined. One purpose of this is to inject back into life, not history (in the usual sense) nor merely a knowledge of ethnic variations but new (to us) ideas of man and his world which could serve to re-vitalize our own. It is only by intimate contact with these varieties of living that we can have some acute insights into our own. The museum is a unique medium and hopefully a work of art itself. Once again, art is regarded as a launching pad for creative action. Ideally, the architecture, the interior design, and the design of presentation in museums would all be works of art waiting for the audience to bring it all alive. There has never been a more startling wand of transformation than the creative mind and the prime purpose of education should be to stimulate such minds. How-to-do-it courses are only incidental to the development of a human being.

Advertising which would be a remarkable area for perception probes, has been largely neglected by our exhibition centers. This is because the types of advertising to which we are accustomed have not been radically changed for many years and they have become invisible. When they are superseded they will be museum pieces and *objets d'art*, collectors' items. It is notable that since the advent of advertising on T.V. magazine advertising has become much more concerned with visual esthetics.

Ahead or behind the times

Why not wake up and place in museums all obsolete objects from our own environments. That an object is obsolete does not mean that it is no longer being used. It merely means that technology is already here to replace it. Driving through the University of Southern Illnois campus Buckminster Fuller remarked that the buildings being erected on campus did not depress him as he accepted "due process". He went on to express his belief that any good idea takes at least a generation before it becomes acceptable. So it would appear that museums could be twenty years ahead of collectors if they watched for obsolescent technology. Museums, as part of their function consists of acting as store houses for the "junk" of the world, must be prepared to predict. Prediction is predicated on perception and perception nowadays requires re-training, for our educational system has done a great deal to ensure that there is little perception. This statement is un-

questionably a simplification but it is necessary that it be said to shock people into an awareness of the deficiencies of the educational system as it currently exists. Included under this blanket criticism are museums as a part of the system. To learn how to *see* go to the school of the deaf. To learn how to *hear* go to the school for the blind. In other words go to areas of sensory deprivation. The suburbs of our times are excellent places to go to understand how to see, or smell or hear for they are largely areas of sensory blackout. This is because designers of suburban layouts leave few areas of surprise – all is submerged in uniformity.

Haptic Perception

The exploration of the feel of objects should be very much a part of the museum experience. In our age of easy reproduction it should not be difficult to provide reasonable touch equivalents for museum artifacts. Or better still provide opportunities for people, particularly children to make touch equivalent to visual experiences. Training in the use of the eye as a touching finger should, of course, be a part of the educational process and if this occurred then certainly "in glass" museums would provide an excellent area for application of the principle. The eye is always used to "touch" things but to raise this activity into consciousness results in an increased awareness of our various methods of perception. Proprioception is, for example, very much a hidden process. To become aware of proprioception is to widen the experience of being. Apropos of this factor of unawareness it is known that natives cannot initially understand movies, for they use their eyes as a scanning finger. At the beginning they focus the eye right on the screen, moving the eye over it rapidly but by the time they have covered part of the picture the image has changed. It has been proven that in order to "read" movies it is necessary to focus slightly in front of the screen. So movie viewing like book reading is a learned process. The translation of one sense into another provides insight into the functioning of the original sense. For example, view a scene then write about it (already a translation) as if it were a totally tactile experience. A beautiful examination of such sensory stress is supplied in James Joyce's *Ullyses*:[2] "The grainy sand had gone from under his feet. His boots trod again a damp crackling mast, razorshells, squeaking pebbles, that on the unnumbered pebbles beat, wood sieved by the shipworm, lost Armada. Unwholesome sandflats waited to suck his treading soles, breathing upward sewage breath. He coasted them, walking warily." Kinesthetics, tactility and smell brought together to describe a space of time – not a mention of visual perception. Such a description does not come from standing back and

looking. For it to happen there must be involvement.

The unknown as provocation

If museums can be a powerful factor in the training of perception then there must be constant awareness of any factors that will help us. There appeared in *Fairs, Exhibits, Pavilions and Their Audiences*[3] by Robert S. Weiss and Serge Bouterline a short report of an experience encountered at the Seattle World's Fair. This experiment was written up under the subtitle, *Increasing the Attractiveness of an Exhibit by Withholding its content until interest had been elicited*. Briefly, the story is that an exhibit had not been stopping passing youngsters and those that had stopped spent insufficient time to observe the exhibit completely. A curtain was placed in front of the exhibit with the injunction "Lift Up". The number of children that stopped rose considerably but they still did not stay long enough. The instruction on the curtain were changed to *"Lift Up and Wait"*. At this point the length of time spent on examining the exhibit increased. The point of telling this story is to draw attention to the fact that museums have not in the past sufficiently examined the assumptions under which they are operated. If objects are presented and sufficient information given on labels visitors will be able to place information about the object in a mental pigeonhole. It is taken for granted at this point that all has been done that can be expected. It is a weary assumption. The secret of successful museum presentation lies for a large part in a proper exploitation of the museum as a medium of communication, and the function of communication is to bring into being attitudes which will project the observer into further action or thought.

Up to this point the idea has been that we should be concerned with the overall effect of an exhibition, rather than a mere sequential presentation. The idea that we are immediately changed as an audience by the first contact must not be neglected. For the first contact should be of such a kind as to provide an insight into the pattern of the total exhibition.

Figure-ground rules perception

We are perhaps all aware of the phenomenon of the afterimage. If we stare at a color for a short period of time then transfer the gaze to a blank surface we will see an image similar in shape to the original but exactly opposite in color. What is not generally known is that in our sensory response there is a phenomenon known as simultaneous contrast. The effect of this is an immediate change in perception. If a dark color is placed on a darker ground it will appear lighter. If a color is placed on a complementary color it will appear more intense, if on a similar color

it will appear greyer. The law is that any color when placed on a background different from itself will appear as unlike the background as possible. To extrapolate this into terms of people one wonders whether or not an initial encounter with an alien culture immediately results in a stance which makes the observer as culturally different as possible from the culture he is observing. It is very likely true and if so it should be of much concern to design-communicators. In color terms we realize the least change in a color when we place it on a background similar to, but not identical to, itself. This reinforces the idea stated earlier that the introduction to a museum should consist of first dealing with artifacts of our own culture. We could then gradually introduce our audiences to cultures a little different until they can finally stand before an alien culture and express themselves in terms of awareness of their own culture. This is not an easily attained objective but it is very necessary that we make moves in this direction.

Cool Life, Hot Art

Art is hot because it is always a fragmentation of sensibility. Life is cool because it is totally involving. (The trend toward verisimilitude but truth to all the senses) manifested in our arts today is bringing art ever closer to life or non-art. Hi-Fidelity sound is coupled to increasingly high fidelity images in film. In television the direction of the engineers is toward ever increasing verisimilitude. This is done accepting blindly the assumption that if it is clearer it is better. That television and its effects are constantly misunderstood is obvious when so knowledgeable a teacher as Victor J. Papanek in *Design for the Real World*[4] says: "T.V. sets in North America show images with a line resolution of 525 lines to the inch. Russian sets have 625; Great Britain has 405 and 625; French sets have a line resolution of 819 to the inch. This means that these images are clearer and demand less from the eye and brain to decode the information. *Obviously a television set that is completely new, devoted primarily to educational needs should carry a high line resolution.*" (Italics mine) This automatic assumption that clarity in visual terms is necessarily good is not conducive to real insight into the educational process. Low definition image making is involving and therefore eminently suitable to education in those instances where a complete immersion in an experience is desired. In other words quite often the effective element in a communication lies in what is left out. For it is necessary that the missing elements be filled in and this is done by memory. The activation of the memory is a very involving experience. Electronic engineers apply the same principle of verisimilitude to color television – the closer to life the better. Color adds an iconic dimension to the image. The fovea of the eye is extremely sensitive to color and texture, both elements of the iconic mode capable of being exploited in a stylized way. However our television images are the old black and white naturalistic chiaroscuro images with color added.

Multimedia are always with us

Particularly today art is filled with hybrids. Possibly it is a necessity for survival. A book is a hybrid inasmuch as it brings together the visual and the aural. Sometimes an author's work becomes highly saleable because a successful movie was made from a preceding work. The effect of one form of communication is always impingeing on another. Speaking strictly of a medium without considering its effects we can say that the content of any medium is another medium. Today we only see plays through movie eyes. The film process early joined up with the book and the satellite contains television. It took a long time for the camera to stop imitating high definition painting. In fact, it still goes on. Painting is still a relatively simple form in terms of sense input although action painting could be construed as joining kinetics to sight, just as cubism did but in a different way. However since any art, while being directed at a single sense, incorporates the memory images of many senses, all arts are hybrid. Speech is joining thought to sound. As Joyce suggested, speech is a stuttering of thought, and writing slows down speech.

The tendency toward confusing art with life *a la* Andy Warhol and his tomato cans is really a method of making life into art. Anything placed in art galleries tends to become iconic, a symbol of universality. The art gallery, of course, automatically raises everything into high definition. Art is concerned with alerting perception and certainly a tomato can in an art gallery will attract one's attention. It isn't a great art form but it incorporates the basic necessity for all art – it makes a part of the usually unseen environment visible. Some part of the ground becomes figure and frightens the hell out of the timidly comfortable. (see Escher, p. 34) Pablo Picasso said: "The point is, art is something subversive" (Gilot and Lake in *Life With Picasso*[5]). Of course it is subversive just because it makes the environment visible. The more we hybridize our art forms to encompass many sensory inputs the closer we get to life. There is a good chance that the tendency to blend many arts in one will reverse and greater stress will be placed on art directed primarily to one sense, ergo we may see more movies that are silent and less opera.

A turn away from Realism

Today, closer attention is being paid to the

purity of a medium. Increasingly, there is less concern with orchestrating many media or sense inputs simultaneously. It is extremely likely that there will be a return to more formal ways of dancing to reinforce the difference of the dance from life. There will be a turn away from realism (realism in the sense of total sense involvement), although individual sense inputs will probably become more and more realistic. In our highly visual society there is a tendency to feel that truth to visual appearance is an accurate reflection of life, but sight is only one of our senses so our response is to a part of life. It is postulated here that any fragmentation of the sense life is automatically hot inasmuch as it separates the particular sensory means away from other sense perception. Stylizing in all media will once again be a powerful force. Art, stylistically removed from reality, can effect catharsis. Catharsis as an element in art is dependent upon the audience's ready acceptance of the fact that the performance no matter how engrossing it might be, whether theatre, painting or sculpture is *not* life. Art is the manifold of life, purging emotions. To the extent that art lacks the quality of catharsis it is that much less art.

Art and Life

Technology is always hot, for any introduction of *ordering* into the life of man is a hotting-up process. However, there is hot technology and cooler technology. When technology becomes totally environmental and unseen it is a part of the life style, and therefore cool. The telephone when first introduced must have been a very hot item. As it was taken for granted and became environmental, it became much cooler. Art which merely reflects a cool life style will be cool – but art is antithetic to the mirror image which is non-discriminatory. The art of the mirror maker does not compare with the art of the portrait painter although both operate under the aegis of St. Luke. The mirror image exists in a one-to-one relationship to what is reflected. However the ground of both a reflected and painted image is all the assumptions of the viewer. There is no feeling on the part of the spectator that he has to make a work of art out of the mirrored image. However this is exactly the obligation placed on the viewer of the painted image. The recognition of art depends upon it being stepped into high definition. Art is always an ordering away from life as it is lived. In *The First and Last Freedom* by J. Krishnamurti,[6] Aldous Huxley starts the foreword thus: "Man is an amphibian who lives simultaneously in two worlds – the given and the home-made, the world of matter, life and consciousness and the world of symbols. In our thinking we make use of a great variety of symbol-systems – linguistic, mathematical, pictorial, musical, ritualistic. Without such symbol systems we should have no art, no science, no law, no philosophy, not so much as the rudiments of civilization; in other words we should be animals."

Aldous Huxley has here succinctly described the dichotomy between art and life. Most men live lives of unmotivated somnambulism. It is true, of course, that a man in our society lives and makes his way in the world by the use of traditional symbolism, but the symbols themselves have become so commonplace that they are almost totally environmental and unseen. The constant aim of art therefore must be to re-illuminate the old symbols or else create new ones. It is very difficult to find new symbols being forged in the arts today. As long as something remains environmental and unseen, regardless of its potential as a springboard for creative thought it is *not* art. A barn in a farmer's field may have been looked at when the farm was purchased but it has long since become environmental for the farmer. A painter wandering around the country side, takes a long look at it, sees a certain design and compositional element in it and makes a painting. The farmer seeing the painting is astounded that the painter should have bothered to make a painting of his barn. The farmer has seen it only in farmer's terms, how much hay will it hold, how many cows, *etc*. He has not really looked at it for years. The artist raises it into high definition as a counter environment. It once more becomes visible. Art is *always* an ordering which is complementary to the environment, sometimes less, sometimes more.

War as life and War as art

Although it might be highly unpleasant, war to the soldier is life and it is cool. To the general, war is a matter of design – planned intent. To him war is hot. Work is hot and play is cool. The general works at war, the private plays at it. To the extent that he is not a professional, war is a background against which life is lived. Insofar as the soldier's war life is ordered by himself it is hot. In a situation where technology was cooling the society, *i.e.* acting strictly as an extension of man's sensory equipment, being hidden and therefore casually accepted as the way of life, then art would be hot. On this basis it could be said that the art of the eighteenth century was very cool. Only as the impact of industrial revolution became assimilated did art become hot. To the artist the industrial environment insofar as he could bring it into focus, was a series of forms, colors, shapes which needed to be organized. For the layman the industrial environment for comfort's sake had to become invisible.

Just as in color relationships, where any color placed on a ground will appear as different from the ground as possible so in any

given environment, art or a stress on unique-
ness (difference from the background) will
appear. When electric technology hotted up
the late nineteenth century and the early
twentieth then art, as a counter environment,
should have been cool and it was. Cubism,
for example, was very much an attempt to
find a visual equivalent for total sense involve-
ment (cool). The function of art is always
that of a counter environment, hotting the
cool society or cooling the hot. There are in-
numerable examples of this all around us.
For example, the emphasis on the individual-
istic "that's *my* bag" indicates that within the
commune syndrome there is a counter irritant
– an increased stress on individualism.

In the late eighteenth and early nineteenth
century William Blake arose to create, in his
art, a counter environment. Blake intuitively
responded to a hot technological environment
with a cool response. His god on earth was
Michelangelo, he of the "bounding line".
Michelangelo like Shakespeare was a com-
posite man, of the Middle Ages and at the
same time of the Renaissance. Blake, un-
fortunately accepted Michelangelo in toto, his
illustrative bent along with the iconic bound-
ing line. The Pre-Raphaelites who accepted
Blake as their founding father made the
same mistake. They failed to see the illustra-
tive as anti-iconic.

Epic poetry, the voice of the tribe, was
very much with it. Tragic poetry was not
with it, it had by the very nature of its con-
tent to be separate from life. It was necessary
for it to effect catharsis. Tragic poetry is hot
compared to epic poetry. One needs a cool
background to have a hot art and *vice versa*.
Life is the cool ground for the hot figure of
the museum. Museums are hot because most
of what they display is strange to our en-
vironment, *i.e.* anti-environmental. Concepts
are cool; percepts are hot. Our lives are based
on an easy acceptance of assumptions. We
seldom examine them therefore we are un-
aware of them. Any phenomenon pressed
into high definition places an auditor or a
spectator in a sentient stance. If this is
accepted then it is obvious that museums
must work toward high definition impact, but
it isn't enough to merely assault the sense
life of an audience. This is only useful if in
so doing we place the audience in a better
position to perceive. A museum presentation
which makes available to the senses another
sensory orientation is effectively raising into
consciousness a rich and strange modality of
being. The effect of raising new modes into
perception will be a necessity of re-evaluat-
ing our own. Anything truly seen can be
intelligently modified. The only reason for
bringing the past into the present is to use
the past as probes into our culture and future
cultures.

For the purposes of argument let us postu-
late that museums are works of art and un-
fortunately that they are bad works of art in
most instances. By stressing the idea of the
museum as a trainer of perceptions we will
come up against the built-in bias of the audi-
ence – no one likes to be disturbed. Neverthe-
less education is a disturbing factor in life
because it imposes an ordering of life. The
trouble in education today is that the order
imposed bears little relationship to living.
Education is a counter-environment but not
a very successful art form. That it should be
an art form has not heretofor been con-
sidered. But museums along with education
generally have failed to design their imposed
order to produce intelligent and sentient indi-
viduals. Too often museums merely confirm
the audience in its own supposed superiority.
In museum presentation there are three fac-
tors: one is the artifact, two is the spectator
and three is the interface between spectator
and artifact. This last is the area of action.
So the function of the designer of a museum
installation is to decide on the effects desired
and order these effects to achieve an em-
pathic understanding of a culture or disci-
pline.

NOTES
1 *The Role of the Museum in the Propagation of De-
veloped Images*, Kenneth E. Boulding, from *Technology
and Culture, Winter–Spring*, 1966
2 *Ulysses*, James Joyce, N.Y. The Modern Library 1946
3 *Fairs, Exhibits, Pavilions and Their Audiences*, Robert
S. Weiss and Serge Bouterline, Summary Report, Institute
for Sociological Research, University of Washington,
Seattle, Wash. March 1963
4 *Design For the Real World*, Victor Papenek (to be
published)
5 *Life With Picasso*, Gilot and Lake, N.Y. McGraw-Hill,
1964
6 *The First and Last Freedom*, Krishnamurti, N.Y.,
Harper, 1954

A hundred years after

F. T. FLAHIFF

The Fleshly School of Poetry:
Mr D.G. Rossetti (1871–1971)

One hundred years ago *The Contemporary
Review* (August-November, 1871) published
an essay written by Robert Buchanan. It was
a review of the poems of Dante Gabriel Ros-
setti, and the review created a great stir.
Here is the opening page of the essay, fol-
lowed by the comments of F. T. Flahiff:

> If, on the occasion of any public performance
> of Shakespere's great tragedy, the actors who
> perform the parts of Rosencranz and Guilden-
> stern were, by a preconcerted arrangement
> and by means of what is technically known
> as "gagging," to make themselves fully as
> prominent as the leading character, and to
> indulge in soliloquies and business strictly
> belonging to Hamlet himself, the result would
> be, to say the least of it, astonishing; yet a
> very similar effect is produced on the un-
> prejudiced mind when the "walking gentle-
> men" of the fleshly school of poetry, who
> bear precisely the same relation to Mr. Ten-
> nyson as Rosencranz and Guildenstern do to

the Prince of Denmark in the play, obtrude their lesser identities and parade their smaller idiosyncrasies in the front rank of leading performers. In their own place, the gentlemen are interesting and useful. Pursuing still the theatrical analogy, the present drama of poetry might be cast as follows: Mr. Tennyson supporting the part of Hamlet, Mr. Matthew Arnold that of Horatio, Mr. Bailey that of Voltimand, Mr. Buchanan that of Cornelius, Messrs. Swinburne and Morris the parts of Rosencranz and Guildenstern, Mr. Rossetti that of Osric, and Mr. Robert Lytton that of "A Gentleman." It will be seen that we have left no place for Mr. Browning, who may be said, however, to play the leading character in his own peculiar fashion on alternate nights.

A note on Robert Buchanan

Robert William Buchanan was not Prince Hamlet, that was Tennyson's role, with Browning playing it "in his own peculiar fashion on alternate nights". No, Buchanan, who was to write of himself with Prufrockian self-pity, "I should have been more loved had I been more lovable, and doubtless I have only got my deserts",[1] this Buchanan cast himself as an attendant lord, Cornelius by name.

"In that and all things will we show our duty."[2] Cornelius does not even have a line to himself, but speaks with Voltimand, servants both of Claudius. Buchanan was more vocal than Cornelius. In his most famous outburst he adopted "the hysteric tone and overloaded style" ("so familiar to the readers of Mr. Swinburne") that marked for him the "little *Hamlet*" of Mr. Tennyson. But in his hysteria he showed his duty; he "accused Mr. Rossetti of naughtiness".

"Foetid Buchanan"[3] we keep your memory. You, whom Swinburne condemned "to go upon [your] belly and eat dust all the days of [your] life,"[4] we remember you. When we "think of faint lilies" we think of you. When we contemplate writhing maids, "lithe-limbed, / Quivering on amaranthine asphodel",[5] we recall your judgment upon the poet who fawned over another lady, "with tender compassion in one eye and aesthetic enjoyment in the other!"

Have we fallen into the trap? You, at least, had private cause to attack the living, the great. Rossetti had already dismissed you as "a poor and pretentious poetaster" and Swinburne had written unkindly of the "poor little book" of your dear dead friend David Gray.[6] Though you were not, as you observed, "naturally revengeful", vengeance was very much on your mind when you compared Swinburne to the Gito of Petronius and noted "the fatal marks of literary consumption in every pale and delicate visage" of "the fleshly school". There was a time when you too would play Hamlet, though badly.

Had Buchanan been satisfied with personal invective, he might have survived only in a footnote to Swinburne's "Under the Microscope", but he fancied himself a poet and novelist and critic. One of the last of the Spasmodics, he was horrified by what he saw as the Pre-Raphaelist tendency to point "spasmodic ramifications in the erotic direction". Rossetti's "Nuptial Sleep" in particular appalled him. He detected a certain sickness in the poet who sought gratification in parading "his private sensations before a coarse public".

Buchanan's squeamishness was the squeamishness of a would-be platonist. When he became convinced that Rossetti's "fleshly feeling" could be construed as "enchanted symbolism" and that "flesh and blood, in his eyes, [were] sacramental", he hailed him as "this least carnal and most religious – of modern poets". His "Note on Dante Rossetti", written ten years after "The Fleshly School", constituted no more of a critical *volte-face* than did Mr. Eliot's second essay on Milton.

When he took on the Pre-Raphaelists, and in particular, Rossetti, Buchanan stated as his position, "A poem is a poem, first as to the soul, next as to the form". It can be said in his favour that his judgments – erratic though they might appear – are perfectly consistent with the dictum FORM=FLESH. The Blessed Damozel was as much a whore in his eyes as Jenny; she too bore "the fatal marks of literary consumption". For Buchanan, the distance between Aestheticism and Animalism was no distance at all; the Formalists were the Fleshlies. "A great and good poet ... is great and good irrespective of manner, and often in spite of manner."

"Foetid Buchanan" we remember the scene or two you made, the quatrain you inspired; half admire your suspicion of coteries, wholly admire your sense in perceiving a tradition from the metaphysicals, through Blake to the Pre-Raphaelists. Sometimes we hear Dr. Johnson in your writing and sometimes Thomas Browne; they are there as well as the Gossens and Scottish Reviewers of every age, those who have attacked and who will continue to attack poets, "Painters and adulterers".

NOTES
Buchanan's essay first appeared as a review of the fifth edition of D. G. Rossetti's *Poems* in *The Contemporary Review*, Vol. XVIII (October, 1871), pp. 334–350. The essay was signed 'Thomas Maitland'. Buchanan expanded the essay into a pamphlet entitled *The Fleshly School of Poetry and Other Phenomena of the Day* (1872).
1 Robert Buchanan, 'Latter Day Leaves', as quoted in Harriet Jay, *Robert Buchanan* (London, 1903), p. 160.
2 *Hamlet*, I, ii, 40.
3 Ezra Pound, 'yeux glauques', *Hugh Selwyn Mauberley*.
4 A. C. Swinburne, 'Under the Microscope', as quoted in Robert L. Peters (ed.), *Victorians on Literature and Art* (New York, 1961), p. 266.
5 This and the last quotation are words of Bunthorne, the 'Fleshly' poet of W. S. Gilbert's *Patience*.
6 Buchanan, 'Latter Day Leaves', p. 161.

How to win friends and influence judges (Engineering edition)

(1) First of all, soften up the judiciary with gentle airs by the Lady Godiva Memorial Band.

(2) Soften further with the threat of giant spit-balls propelled by a king-size slingshot. By using a short fuse you guarantee they'll fall short — thus maiming no judges, but scaring them enough to make them grateful for your scholarly understatement.

(3) Now cool it in the usual manner. Once again the key is moderation — just enough of a sprinkle to wake them all up without risk of a single drowning.

(4) Leave them laughing — and start planning how to celebrate your victory over more sedate competitors in the Homecoming Float Parade.

The judges who, sure enough, awarded first prize to the Engineers were, from left, Principal Donald Ivey of New College, Hart House Warden Arnold Wilkinson, Acting President John H. Sword, Alumni President C. Ian P. Tate, the University News Bureau's Lawrence F. Jones, and John Duncanson, director of Alumni Affairs.

CHARLES E. HENDRY

In Pursuit of Perspective

Recently, in all seriousness, my wife asked me, "Chick, when are you going to retire from retirement?" Frankly I have never really thought of retiring, not in the psychological sense. For many persons, unhappily, retirement means throwing in the sponge. In such instances retirement merely punctuates the end of an occupational sentence. Retirement, like a disease, becomes terminal or, like a dream, vanishes in a vacuum of unreality.

This need not be so. Retirement need not be an escape nor an ending. Assuming reasonably good health, positive motivation and productive potential, retirement can become an exciting arc in one's life trajectory.

What is involved chiefly is a change in role and the nature of responsibilities carried. A consultant, for example, is not an executive. Other roles excepted, as a consultant one can limit one's obligations, and one can pace and space one's input. Whatever else may be implied, getting out of the so-called "rat race" means that one can substitute organic and functional for arbitrary and mechanical time units in organizing one's activities. Doing one's own retirement thing above all else frees one from the desperation of deadlines.

Retirement is not a time to make up for something one has missed so much as a time to discover deeper meaning in what one has already experienced and to test it out further in new situations, relationships and settings. Such preoccupation may not be unrelated to T. S. Eliot's profound interrogation,

> *Where is the Life we have lost in living?*
> *Where is the Wisdom we have lost in knowledge.*

Often when I sit alone by the Cape-codder on the Saugeen, and watch the sun set over Lake Huron at South-ampton, I find myself wishing that Ned Pratt were beside me. Until I returned to Canada in 1946, after twenty years' absence, I did not know this Olympian. I had felt the impact of his powerful poems. I had sensed the enormous energy, profundity and exuberance of the man so eloquently confirmed in Kenneth Forbes' impressive portrait painted in 1944, now displayed in the E. J. Pratt Library of Victoria University. But until quite late in his life and well on in my own I had not met him. My contacts were chiefly at monthly dinners of the Arts and Letters Club, on Elm Street, in Toronto. I was drawn toward him as if by a magnet.

Why do I so often wish that Ned Pratt were here? It is not simply because of my great fondness for his poetry – his "wild orchids of the sea" (Seagulls); "black cavalry astride the air" (Dunkirk); "not a guy rope murmuring" (The Titanic); "oaths . . . properly enunciated" (Silences); "I'd place a table in the skies" (The Depression Ends); "On the North Shore, a reptile lay asleep" (Towards the Last Spike). Rather, it is because, in one hundred and ninety dramatic lines, in what Northrop Frye has singled out as "the greatest poem in Canadian literature," *The Truant*, he reveals *himself*. It requires little exertion of the mind to identify Pratt with "the little genus *homo*, six feet high" confronting "the great Panjandrum." No stranger to mathematics or to science and technology, and no push-over for pint-sized purveyors of canned "truth," theological, philosophical or other, Pratt, *The Truant*, hurls heroic defiance into the very teeth of arrogance and cosmic conceit.

Like many discerning youth to-day, Pratt could spot a phony a mile away. He would, if he were here, completely understand Simon and Garfunkel, especially their "The Sounds of Silence" and "A Bridge over Troubled Water."

> *And in the naked light I saw*
> *Ten thousand people, maybe more*
> *People talking without speaking*
> *People hearing without listening*
> *People writing songs that voices never share*
> *And no one dare*
> *Disturb the Sound of Silence.*

When communication fails all one can hear is "The Sound of Silence" – silence between the generations, between scientists and the people, between politicians and administrators, between one profession and another, between economic groups, races and nations. Inevitably, as a consequence, some among us succumb to apocalyptic panic; some turn to violence and the arsenals of anarchy; some, soured by corrosive cynicism, simply want to stop "Spaceship Earth," get off and escape God knows where. In my own case, to borrow from the popular musical, *South Pacific*, and this would be true I think of Ned Pratt, "I am stuck, like a dope, with a thing called hope". Pratt, if he were here, would bring perspective to our understanding of the social turbulence of our times.

When one is asked, for instance, to name the most serious problem facing society, or to express an opinion on say Canada's number one problem, one is up against a very tough assignment. It is not too difficult to identify and list most of the really consequential, substantive problems that plague mankind. Where the real difficulty comes is in grouping them, ordering them in meaningful priority, and combining smaller problems into macro-problems. This is where the pursuit of perspective becomes itself top priority.

I am prepared to concede consider-

able merit in attempting an exercise of this importance, namely, the development of an inventory or multiple inventories of our most pressing problems as a society. Every observant, thoughtful and concerned person would have his own preferential listing. While some uniformity in conceptualization is beginning to appear as in the categories used, for example, in the periodic review, *The World Social Situation*, published by the United Nations, also in the greater sophistication being demonstrated in the development of more sensitive social indicators, consensus is still some distance away. It is reassuring, nevertheless, to know that here in Canada substantial study is being made of the use of social indicators as a guide to social policy.

Twice now in the past two years Omond Solandt has strongly asserted his view of what our number one problem is, both in Canada and throughout the world. It is population. The immense importance of his private judgment is enhanced by the fact that, at the time, he was Chancellor of the University of Toronto, also Chairman of the Science Council of Canada.

Other scientists, professional specialists and highly competent students of society come up with different, though not necessarily conflicting conclusions, depending in large measure on their particular focus and preoccupation. For the ecologist pollution may take top priority. Poverty, in another perspective, holds precedence.

Other equally concerned, intelligent and competent persons, using equally sophisticated, conceptual models, give their highest ratings to war, ignorance, disease, capital base, greed, bigotry, discrimination, bureaucracy, violence, crime, addiction, alienation and the inventory might be extended almost

indefinitely. Some of these problems are seen not just as a threat to the quality of life but to the very survival of life itself.

Ultimately, of course, the determination of priorities in social policy must be a political decision. In this context, logically one must conclude that what is then most crucial is achieving and maintaining vital and viable, creative interaction betwen the electorate, the elected and the élite.

If, however, we continue true to past form, society will zero in on major, substantive problems with fanatical determination to preserve institutional boundaries, at all costs, whether scientific, professional, political or managerial. In an open society such as ours this pattern, however frustrating, probably will persist. It need not persist, however, to the neglect of directing greater attention to the problem of the process of problem solving itself. We would do well to remember an observation once made by Alfred North Whitehead, with brilliant brevity, "The process is the actuality".

To date our main approach in tackling large-scale problems has been primarily through vertical structures, specialized, insulated and separated from one another, and this despite the fact that seldom if ever is any one discipline, organization or department of government competent alone to cope with the problem. Over time, each separate institutional structure literally digs itself in, entrenches itself, often becomes preoccupied more with its own survival than with creative response to changing needs and with flexibility and responsible innovation. A kind of institutional paranoia prevents essential partnership. Horizontal connections and movement between the vertical structures are chronically thwarted.

Dr. Charles E. Hendry

Charles Hendry knows the People's Republic of China at first hand, spent seven months touring through Southeast Asia and the Middle East, has conducted institutes and lectures in various countries including an institute in the Philippines with Dr. Margaret Mead. Two years ago field studies took this "retired" professor to Ethiopia, Tanzania and Zambia: he went by way of England, France, Switzerland and Rome – and returned by way of South Africa and Brazil. Appointments in various parts of Canada and the United States followed. Last January found him in Mexico and March in Nassau where he and Mrs. Hendry celebrated their 45th wedding anniversary with a married daughter who lives there. He will be in, or about to leave for, Barbados when this appears.

As consultant to the Ontario Department of Social and Family Services Dr. Hendry has an office and a secretary at Queen's Park. Half of his time, on a flexible basis, is devoted to the department. During the balance of his time he serves as President of the Canadian Council on Social Development, for fifty years known as the Canadian Welfare Council; Honourary National Advisor and Chairman of the Long Range Planning Committee of the Canadian Red Cross Society; member of the Advisory Committee on Legal Aid to the Minister of Justice and Attorney-General of Ontario; member of the Executive Committee of the National Agency Review Committee of the Canadian Association of Community Funds and Councils; member of the Board of Association Press in New York City – to mention some of the more important relationships involved.

Recently he was commissioned by the Canadian National Institute for the Blind to design a study plan for use in conducting a comprehensive agency self-evaluation.

Just before he left the University, Ryerson Press published his timely report, *Beyond Traplines*, for the Anglican Church of Canada. Immediately after his retirement he wrote the Introduction and Integrative Summary of Canada's position paper, *Social Development Canada*, prepared for the International Conference on Social Welfare held in the Philippines in September 1970.

In his spare time he is adding to the manuscript for his autobiography, *Jottings on a Journey*. Each "jotting" is a vignette designed to capture the essence of episodes, relationships and experiences in many parts of the world from Peking to Peru, Hiroshima to Saigon, Moscow to Mexico, Alaska to Puerto Rico, Bankok to Biblos, Rio to the Isle of Skye. Much of his writing is done in his study in the Hendry's "Capecodder" on Lake Huron at Southampton, Ontario.

It is unfortunate that scholars, scientists and professional practitioners who leave the security of their particular specialization to encourage the building of interdisciplinary structures and strategies, so often run the risk of losing status in their own group. Hyphenated alignments, however valid and crucial, are precarious at best. Furthermore, in some quarters the contempt shown journalists of the calibre of Alvin Toffler (*Future Shock*) and Robert Hunter (*The Enemies of Anarchy*) underscores widespread resistance to large-scale integration in institutional arrangements. The essence of the thrust in the thinking of these two men can be captured in a single metaphor, that of the computer. Hunter compares the discovery of the transistor in 1948 and the resulting revolution in electronics to man's jump from a walled village of mud huts to a modern metropolis. The advance of electronic over mechanical technology, providing for unimaginable scope in large-scale integration (LSI), is held out as a theoretical model for application in social policy and social development. The disciplined, erudite and distinguished writings of Fred Emery and Eric Trist, *Towards a Social Ecology*, leave little doubt that new designs for human dignity are in the making. Buckminster Fuller and Paolo Soleri do not have a corner on social inventiveness.

It is clear that macra-problems of vast social dimensions, such as population, pollution and poverty, confront mankind throughout the entire world. No people and no place, however primitive or sophisticated, can long escape the powerful impact of the dynamic forces at work. These will have to be dealt with. Priorities will have to be determined. Limited resources will have to be assigned,

strategically and logistically. Something much more basic, however, is required.

The Spring 1971 issue of *The Wharton Quarterly*, contained a searching analysis of the human condition by Sir Geoffrey Vickers. The title, "The Demands of a Mixed Economy" fails to reflect the profound significance of his diagnosis. What he attempts is a penetrating assessment of the erosion of integrity in human relationships. With the perceptiveness of a lawyer who is also a scholar he suggests that this erosion is occurring in the wake of an ever-expanding and excessive reliance upon laws of contract, legal sanctions and surrogate representation. What he is saying is that social structure and social process are out of alignment. Man's problems, small or large, cannot and will not be dealt with effectively until mutual trust is built back into the human relationship.

A single quotation must suffice to sample his assessment: "Status in any society implies membership felt by the individual and acknowledged by his fellows. But a contractual society does not encourage the sense of membership; and since only membership gives the sense of status which individuals need, the gap has been partly filled by associations of the managed and the governed, notably by trade unions and professional organizations. In so far as it remains unfilled, it is expressed by vague but highly charged demands for greater participation but also for greater autonomy for smaller groups with which the individual can identify himself, whether occupational, geographic, racial, religious, ideological or united merely by age group.

"To some extent these demands, both for more participation and for greater decentralisation, can and should be met. They point to auto-

cratic anachronisms which we should be better without. But they are also symptoms of a deeper trouble much more difficult to remedy."

Vickers is not alone in wondering if we are not like children trying to spell God with the wrong blocks. During July of 1971 a symposium on "The Steady State Society" was held at the Institute of Man and Science at Rensselaerville, New York. The symposium was part of a year-long inquiry into "Balance vs. Growth: Can Development Proceed in a Steady State Society?"

Contrary to Eddington's assumption concerning the universe as a whole, an impressive number of eminent scientists have concluded that society must seek to achieve equilibrium by limiting or retarding growth. "Whether we want it or not," according to Dr. Rene Dubos, "the phase of quantitative growth which has prevailed throughout technical civilization during the 19th and 20th centuries will soon come to an end." Ecologists with their emphasis on the integrity of habitats and the "self-correcting" mechanisms of natural systems, are currently exerting wide influence. Debate centres on issues of human scale, no longer a monopoly of architects. The situation is particularly complex because, on the one hand, man exists in a finite environment with limited resources, while on the other hand he can change the environment, creatively, in a variety of ways. Advocates of the Steady State Society imply the need for a re-definition of norms and values, new methods for monitoring and regulating the use of resources and major adjustments in economic and social policy and in the policy-making processes themselves.

Anyone familiar with the international journal *Human Relations*, jointly established in 1947 by the

Tavistock Institute of Human Relations (London, England) and the Research Center for Group Dynamics (Cambridge, Mass.), will be knowledgeable concerning the bearing of the concerns alluded to above on matrix management, decision search, achievement motivation, task force intervention, the therapeutic community, encounter groups, and reality practice in the discovery, development and deployment of manpower. Also he will appreciate the enormous strides that have been taken in helping man clear the decks for genuinely creative and constructive living. One does not have to be an artist, a poet or a musician to be creative.

The views of men like Geoffrey Vickers lie in a realm beyond ideology. Nor are they Utopian. They combine a rigorous, intellectual realism with an equally sensitive, disciplined idealism. They rise above the narrow limits and shallow levels of provincialism, scientism and professionalism. They are hospitable to the dynamics of change and to new directions and dimensions in social as well as in physical reality.

As I look back upon nearly fifty years of intimate association with universities, in Canada, the United States, and in other parts of the world, I find myself attaching central significance to what is universal in higher education. A university is intended and expected to be concerned with the whole of life; with structures and systems as a totality; with both systematic, specialized analysis and synthetic, generalized integration; with knowledge building based ultimately on the testing of theory in practice; in a word, with large-scale integration calculated to facilitate and ensure the utmost in self-realization and social fulfilment of all men in all places and at all times.

CHARLES E. HENDRY

If universities are to perform this exalted and demanding role great care will be needed to ensure a healthy balance between autonomy and accountability. Universities must demonstrate responsiveness as well as responsibility, indeed as part of their responsibility. Of one thing I am certain, whether one is attached to industry, government or university, none has a monopoly on intelligence, knowledge or wisdom. Anyone so stupid or so arrogant as to carry around any stereotype to the contrary, particularly in the case of the university, fails to recognize that the function of a university is to discern, develop and deploy intelligence, not to get a corner on it, not to build up a Chinese Wall around it, not to go high-hat.

The recent publication *Toward 2000*, produced by a sub-committee of the Council of Ontario Universities, chaired by John Porter, reminds one that education at higher levels is designed to provide perspective on the future as well as on the past. Again, balance is needed. In his engaging vignettes on *Civilization*, Kenneth Clark quotes the inscription on the tomb of Leonardi Brui, the great humanist chancellor, in the Pazzi Chapel, Florence, "History is in mourning." This lament has particular relevance to-day. Superficially at least, contempt for the past would seem to be spreading. Only when history itself becomes news, as in the dramatic leak of the Pentagon Papers, does it suddenly compel respect. Yet, as Gene Fowler once remarked, "News is history shot on the wing". Without historical context and continuity there is no meaning in the pursuit of perspective.

Whether scholar, professional or scientist, those privileged to teach, to study and to learn in a university have an obligation to maintain contact, communication and co-operation with the larger community. While it is possible and desirable for the university itself to become a community of learning, it cannot possibly avoid being markedly atypical. Linkages are essential between campus and community. Without such vital connections between élite and electorate, so to speak, contemplation may displace compassion, and arrogance, humility.

I now confess that one of my chief objectives when I was Director of the School of Social Work, apart from my primary duty to strive for the highest possible standards in the development of several thousand professional social workers and to build up the School's research capability, was to help keep the University as a whole alert to and involved in social aspects of growth and development.

For many years distinguished speakers were invited to participate in a series of public lectures, *Minds on the Move*, including the 50th Anniversary *Welfare and Wisdom* series. Students and faculty shared in planning and conducting extended field exercises in smaller cities and rural areas to overcome inevitable preoccupation with Metropolitan Toronto. Round Tables, some involving a three-year cycle, attracted leaders in business and industry, labour, science, the various human service professions and scholars from all parts of Canada. The Round Tables were organized to deal with such subjects as Social and Economic Security, The Social Implications of the Census, Research Strategy in Social Welfare, The Impact of Rapid Industrialization on Social Well-being and Social Aspects of Science Policy. The University of Toronto Press published a full-length volume on the Man and Industry Round Table written by Sir Geoffrey Vickers, Chief Consultant, entitled *The Undirected Society*. The proceedings of the last Round Table on Social Aspects of Science Policy were incorporated in Hansard as part of the official record of the Committee on Science Policy of the Senate of Canada. These projects illustrate how one particular unit within the University attempted to build bridges between campus and community.

In retrospect, however, I attach greatest importance and derive greatest satisfaction from a modest initiative I took which resulted in the creation of the Interprofessional Student-Faculty Seminar, now an established, annual, co-operative undertaking within the University. In my status as a retired member of the academic community I invoke indulgence while I trace this now lively stream back to its source. I do so because I see in this innovation a model of considerable educational promise.

One night I attended the Annual Meeting of the Children's Aid Society of Metropolitan Toronto in Maurice Cody Hall. The guest speaker was from Rutgers University; her subject, "The Battered Child". She had just completed a doctoral dissertation on the problem. When she concluded her address I turned to Dr. Lawrence Chute, then Professor of Paediatrics, now the Dean of Medicine, who was sitting a few seats away. The impact of her report was so great I simply had to inquire whether he thought the problem was as serious in Toronto as in the cities included in her study.

"Not a week passes that we do not have to deal with such cases," Dr. Chute replied. "Often infants arrive in shock, from loss of blood. Some are found dead on arrival at the hospital. Sometimes the skull is smashed. In many cases bones are broken and there is disfigurement."

I could not settle down to sleep that night. My thoughts were in turmoil. Gradually two ideas came into clear focus. Social workers engaged in child welfare are not alone in having to cope with the care and protection of neglected and battered children. No single profession by itself is capable of dealing with, let alone solving, this tragic and complex problem. At this point, about 3 a.m., I got out of bed and went into my study. I decided to write a memorandum and to discuss it with the faculty and members of the graduating class at the earliest opportunity.

A week or so before the Student Association had held the traditional banquet for the graduating class. As Director of the School I had made an extra special effort, at their request, to secure an eminent guest speaker for the occasion. He consented to fly up from New York even though he had just returned from India. He came eager and well prepared to share his unique and rich experience. Unhappily, circumstances changed everything. At the dinner, fun and frolic reigned supreme. Hilarious skits, parodies and toasts, well lubricated and interspersed with good music and dancing, conspired to delay the introduction of the distinguished guest until the master of ceremonies and the speaker both realized, much to their embarrassment and consternation, that any attempt at a formal address would be absolute folly.

This awkward episode flashed upon my mind as I sat down to write. Indeed it served as catalyst to my thinking. I began my memorandum by telling about my experience earlier that night over at Maurice Cody Hall. I went on to say that it seemed too bad that so many students in different professions had to wait until after graduation to discover their inter-

relatedness and interdependence. What would they think of the idea of protecting one whole day, freed from all regular academic study and field practice, and involving members of the graduating classes in paediatrics, psychiatry, psychology, nursing, public health, education and child study, together with a few faculty representatives, to meet with their opposite numbers in social work, to get to know one another and together to take a look at some common problem, say the problem of "The Battered Child Syndrome." I hastened to add, of course, that this proposal was not intended to take the place of the Graduation Banquet. My thought rather was that the banquet would provide for the fun and frolic, the joint seminar, a kind of vestibule experience in interprofessional relations.

The suggestion was accepted. I then arranged to meet with Dr. Chute. With his strong support and collaboration we invited the co-operation of several other professional units within the University. In due course several students and faculty persons from eight different professional divisions formed themselves into an ad hoc planning committee.

Some of the details escape me at the moment but the records, accumulated over the years, together with a printed pamphlet describing the Interprofessional Student-Faculty Seminar, are available. Chairmanship and hosting of the Seminar rotates annually. All records rotate also as a convenience to the incoming chairman. Co-operation has steadily grown until fifteen or more different professional divisions and social science departments have become involved, including law, architecture, pastoral counselling and sociology.

I shall never forget the opening plenary session of our first Interprofessional Seminar. Senior persons from four different professions – paediatrics, psychiatry, psychology and social work – were each asked to present one case of a battered child. Fifteen minutes were allotted for each presentation. The cases were drawn from four different settings – hospital, family and juvenile court, school and a children's aid society. The first presentation was made by Dr. Harry Bain, then on the staff of the Hospital for Sick Children, now Professor of Paediatrics at the University of Toronto. The hall was darkened and coloured slides were shown. There was an audible gasp when the first slide flashed into view. It was of a small infant. There was a gaping hole in the head about the size of an egg. A rat had attacked the child as it lay between its two inebriated parents in a miserable hovel in a slum area of Metropolitan Toronto. Loss of blood had been excessive. The child was in shock when brought to the hospital. Intensive care followed by plastic surgery proved effective. The problem, however, had not yet been solved. A part of the problem only had been brought under temporary control.

It is difficult to imagine the quality of interaction this common exposure to a single battered baby produced. It is even more difficult to speculate on the impact of this whole experience on the subsequent careers of the professional students who participated in the exercise.

Video tapes and computers will have a central place in the higher education of the future, but of more fundamental importance will be creative imagination and administrative flexibility to help students move competently and comfortably between and beyond specialization, to match curiosity with concern and to function with compassion in an environment aimed at the development of human dignity.

"So," to conclude, again drawing upon a mind very much on the move, in the words of Geoffrey Vickers, "the century once hailed as the century of the common man proves to need men who are today most uncommon – uncommon in their intelligence and even more uncommon in their ability to accept their membership in many systems and to meet its conflicting demands; uncommon in their ability to enlarge the boundaries which separate self from non-self and now from not-now. . . . Uncommon, in a word, in their humanity."
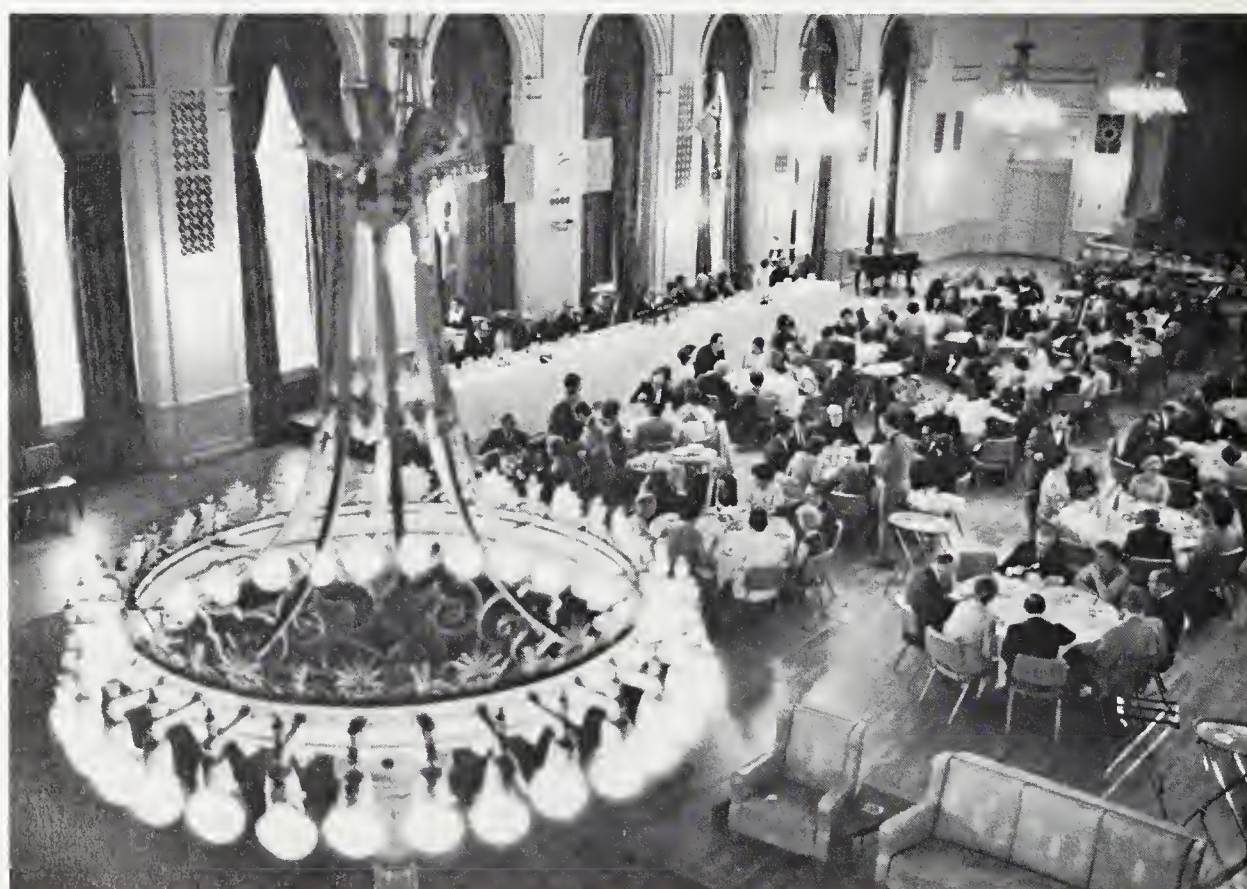
A "retirement party" for Dr. Hendry in May, 1969

Era of grave decisions

agrees that Pollution is Bad and that we should get rid of it. Who can question the desire to swim in clean water and breathe clean air? Unfortunately what to do about it is not quite so clear. I will not belabour you with an account of the nature and extent of pollution, nor of the contribution that technology makes to it. The mass media have done that job very well indeed.

Third, and in a somewhat different vein, we note the massive application of energy and automation, that has relieved man of much of his burden of toil and tedium. Leisure time has grown; the work week has steadily declined for much of the population (Unfortunately not for University professors and their students!) and all indications are that this trend will continue. Ironically, this generation of leisure, which has been one of the goals of technology, is now seen to constitute a social and psychological problem of no mean proportions. How are generations nurtured on the work ethic to adjust to the relegation of work to a minor activity? How shall they learn to fill their time with activities of human value and to find self-fulfilment?

Finally (if I may permit myself some grisly humour) I turn to the problem to end all problems – war. It is precisely the technological nature of war that makes it the ultimate horror. Atomic weapons, i.c.b.m.'s, anti-i.c.b.m.'s, provide a backdrop for a drama that has no precedent in human history, and none of us know what the climax of that drama will be. Some experts believe that the odds are against a favourable outcome for mankind.

We could of course extend this catalogue of gloom, and the analysis of how technology has contributed to it. But there is no need. You were already convinced before you came here this morning that mankind faces critical problems with respect to quality of life, resource depletion, even survival, and that science and technology have been major factors in the evolution of this situation.

How should scientists and engineers

The John P. Robarts Research Library Reaches Final Stages

The outlines, planes and structural design of the library complex under way at the University of Toronto are now at a stage where the viewer can visualize the completed structure. One part of this immense resource centre, the Library School, is already occupied; the Research Library and the Rare Books Building are scheduled for completion in 1972.
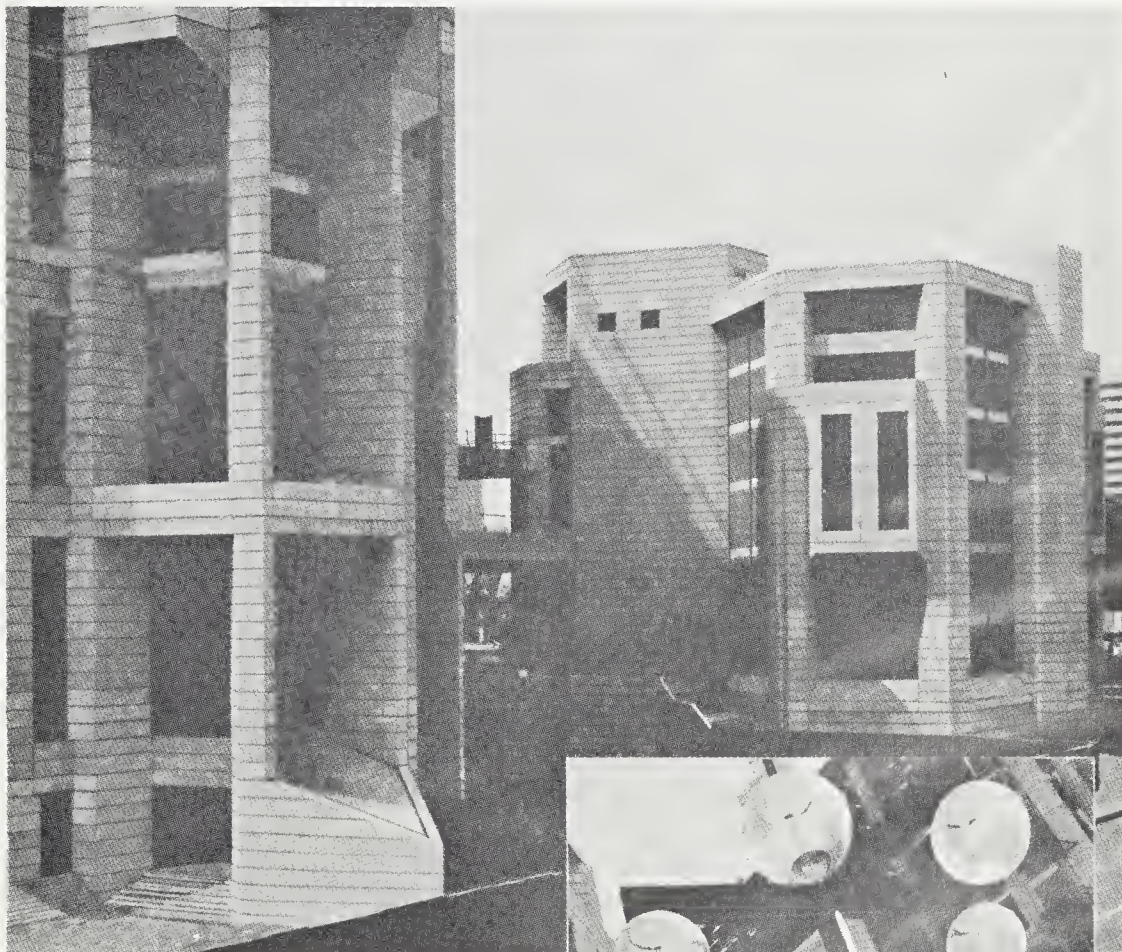
Detail shown in photos indicates the design and style of new John P. Robarts Research Library

respond to all this? By concluding that science and technology are evil, and slinking away to hide? I think not. Firstly, let us give equal time to the accused, and be sure we see the whole picture. Science and technology have, after all, something to their credit. They must be given their due for their part in transforming the world for the better. Let us not be misled by nostalgic visions of the good old days – they weren't all that good.

Twentieth century North America and Europe are surely better places to live today, with all their faults, than they were several centuries ago. Cities then were dirty, stinking places, unsanitary, disease ridden, vulnerable to fire, without public transportation, without any of the amenities we now consider indispensable to civilized living. Peasants and labourers worked from dawn till dusk to scratch a bare living for themselves. I doubt whether even the aristocracy of the seventeenth century lived as well in many ways as does a typical suburban family in middle class North America. And such good life as they did have was built on serfdom and oppression.

Science and technology have been the principal instruments of progress. They have largely liberated man from the restraints imposed upon him by his own physical limitations, and by the physical nature of the world he inhabits. His range of options, his 'personal space', have been enormously expanded. Through cheap and rapid transportation, we are free to make choices about where on the surface of the earth we would like to be; through cheap and efficient communication systems we can choose who we would talk to and who we would listen to. We can choose what to read and what to study, how to entertain and amuse ourselves; we can see in the dark, be warm in winter, use powerful machines to ease our labours. Through developments in medicine pain and suffering have been alleviated and our lifespan has been extended. While on the subject of enhanced personal freedom, we should note that technological development has effectively made human slavery obsolete as the basis of an economic system. If slavery had not vanished in North America through political action it would surely have disappeared for purely economic reasons – mechanical cotton pickers are cheaper by far than human ones.

Even where pollution is concerned, we can find a positive side to technology. Can you imagine urban society without water and sewage systems? Even the much-maligned motor vehicle has replaced an even worse polluter. The pollution per unit horsepower from automobiles is less than it is from horses.

So much for the first part of technology's response to the challenge – it has had its good side. The second response is almost a cliché but has, nonetheless, to be made. It is "Don't blame the hammer for the mashed thumb". Science and technology are tools of man; tools that he can use to shape his environment and his life in accordance with his human ethics, his human values, his human goals. If we have failed in recent years to use them wisely, it is the failure not of man the technologist, but of man the politician (present company of course excepted!)

In my opening I quoted Mr. Trudeau. How right he was if we infer from his remar.. 'hat control of technology is a political responsibility – belonging to government at all levels. There are a number of recent signposts in this connection that I think point the way for the future. Let me list some of them:

(1) The most advanced anti-pollution program in the Western World is that of Sweden. It is based on legislative action – the Environment Protection Act of 1969 and the Environment Protection Board, that implements the Act. Under this act, large numbers of scientists and engineers are engaged by the Board, by the local country administrations, and in private practice to work exclusively on the solution and prevention of pollution problems.

(2) The water in the Thames is now cleaner than at any time in modern history. This has resulted from a political action – the setting up of an agency with the mission and the necessary power to do the job.

(3) The U.S. government has recently enacted a history-making piece of legislation, that will require all new automobiles marketed in the U.S.A. to meet stringent standards of exhaust emission by a certain date.

(4) The Rt. Hon. A. Wedgwood Benn, member of the British House of Commons, recently wrote "Those who are looking for some solid evidence to justify their optimism about the future may find it at the point where science and technology meet politics and each fertilizes the other . . . out of these forces working together a new Europe and a new world can be built".

(5) The Apollo Program. Perhaps the most important result of the U.S. manned space program in the long run will be the demonstration of the truth of the previous statement. Given a clear and unequivocal political statement of a national goal, science and technology can be mobilized to achieve seeming miracles in its accomplishment.

(6) The SST. The major decision about whether supersonic transport technology was to be introduced in

the U.S.A. had to be political. The purely economic and technological arguments pro and con are indecisive. Broader ecological and sociological considerations had to be brought to bear. I personally think the decision to cancel was right. This case illustrates the important principle that we should not necessarily apply a new technology simply because it is possible. We have also to be sure it is good and worthwhile.

(7) The population of China. One of the most important object lessons abroad in the world today is the control of population growth that has been achieved in China – in sharp contrast to its Asiatic neighbours. This has been an illustration of combined governmental action, education, and the practical application of medical science.

It seems to me that the way is clear, that it involves a kind of marriage of government and science and technology such as was envisioned by Senator Lamontagne in a speech in Toronto on May 29th, 1969. Which is the groom, and which is the bride I'm not sure, but the steps toward this union need to be taken firmly and without hesitation. The enemies of the future are inertia and vested interest. Both must be assaulted and overcome if we are to succeed in "controlling the monsters of technology", and that responsibility falls squarely on government.

But what responsibility falls on you and me? Which brings me full circle to our code of ethics. Collectively, as a profession, we have the obligation to respond to appropriate political decisions, when they are forthcoming, with our best efforts – to make sure that technology rises to the challenge of meeting national goals. On the personal level, we need to broaden our criteria beyond the narrow ones of the Kipling Obligation. Let me

read you part of a proposal for a Hippocratic Oath for Applied Scientists proposed by Professor Thring, of the University of London. "I vow to strive to apply my professional skills only to projects which, after conscientious examination, I believe to contribute to the goal of co-existence of all human beings in peace, human dignity and self-fulfilment." The rest of Thring's oath, which I commend to you, can be found in the New Scientist of January 7th, 1971.

To conclude:

Just as technology has a share in the responsibility for great social problems, so will it have a share in their solutions. We are committed to a technological society. We will make more demands on science and engineering in the future, not fewer. But these demands will be more sophisticated than they have been in the past, if technological developments are to help bring us into harmony with nature, preserve our ecological balance, preserve and enhance the quality of life. We shall have to broaden and extend the criteria by which we judge our new technologies. It will no longer be acceptable to proceed with a new technology simply because

it is possible. It will no longer be good enough to optimize systems only with respect to cost, weight, efficiency, size, etc., the things that are readily quantified. The payoff function of system theory must somehow be made to include, with substantial weighting factors, elements derived from human values. We will have to put peace, beauty, cleanliness, harmony, quiet, into the equation.

The challenges to science and technology, that is to you, are many, stimulating, and above all, worthwhile. May you respond to them with vigour, with intelligence, with sensitivity, with courage, and above all, with optimism.

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Philosophers' Walk (page 13) is devoted to papers given by three U of T professors as part of the Canadian celebration of the 2500th anniversary of the founding of the Persian Empire. From a slide shown by Professor G. M. Meredith-Owens, whose subject was Persian art, comes this illustration of a young prince playing a lute (Safavid School *ca.* 1590, British Museum).